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Main feature

From rugged and exposed natural trails to some of the biggest and best bike park set-ups around, Wales has it all.





COVER: Rocking and rolling into the Welsh backcountry. Photo • Steve Thomas





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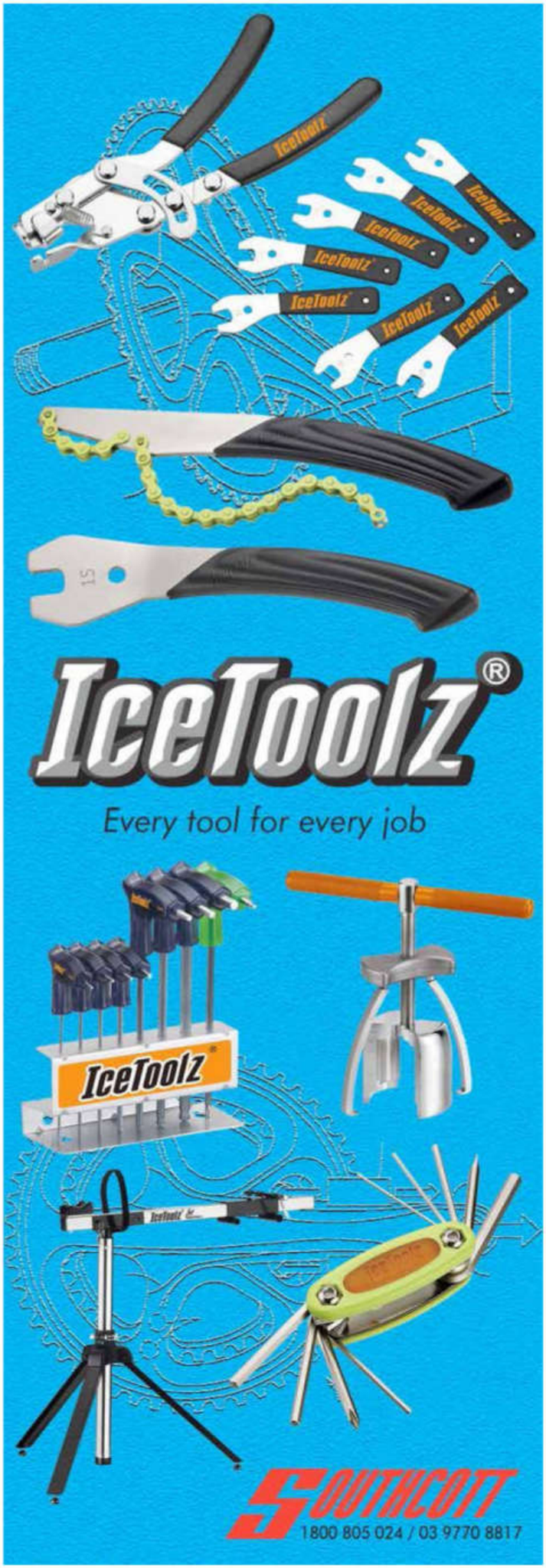




Photo: Ryan Lennox

On-line & Electric

Exciting times at *Mountain Biking Australia* as we've just launched our new website: www.mtbiking.com.au. MBA kicked off 14 years ago as an offshoot of our road-going cousin, *Bicycling Australia*. In this time we've piggybacked off the *Bicycling Australia* website and the MTB content was jumbled up with the road. Now, just as the print magazine split to create this publication, our online content will have its own identity too.

In *Mountain Biking Australia*, we strive to deliver information that remains relevant for many years to come. Our website will provide easy access to our skills tutorials, mechanical tips, destination ideas and technical articles that you may have missed in the magazine—much easier than digging through a pile of back issues.

In addition to the pre-existing material, the website forms an important outlet for all of the time-critical information that mightn't otherwise find its way into the magazine; brand or product launches, event news and more. You'll find the same team behind both the web and print content, so you can expect the same level headed and non-sensationalist approach to gear reviews; we'll outline both the good and the bad for any product without the advertorial spin that you often encounter.

Speaking of gear reviews, this issue is loaded with 2016 model bikes including our first taste of the new semi-fat 27.5 plus trend—halfway between a regular MTB and a fatbike. We pit the latest SRAM and Shimano brakes against each other and look at the latest suspension fork from Fox.

We also broach the rather controversial topic of e-bikes. There was much toing and froing as to whether we should give the coverage to this market segment, as many mountain bikers are vehemently against them. I feel there are valid arguments on both sides but simply dismissing the e-bike element isn't going to make them go away. A lot of misunderstanding surrounds the topic too, so we've presented the facts on what e-bikes are as well as some informed opinion to take on-board. So flick to page 62 and have a read. Keep an open mind and shoot us an e-mail to let us know what you think: john@bicyclingaustralia.com.

J Hardwick



©Shimano Inc 2015 / Photo: Sterling Lawrence

Winning letter



BIKE REVIEW FEEDBACK

Firstly, congratulations on a great magazine. I recently spent over three months off the bike with an injury and rediscovered your magazine in that time. In a period when I could quite easily have become disheartened, reading the mag kept my stoke well oiled for my return to mountain biking and gave me plenty of non-riding excuses to spend time with my bikes tweaking this-and-that—I'm a mad tinkerer and my man-cave is a glorified bike workshop and storage area for my seven bikes.

The reason for my letter is to highlight a small trend I've noticed in some of your bike reviews, typified by the Avanti Torrent 2 review. You've made mention of the current economic climate and affordability issues on a few occasions, yet when reviewing a $3,600 bike you conclude by saying if you upgraded practically the entire bike it would be virtually unstoppable; forks, wheels, tyres, drivetrain and adding a dropper post.

Doing any combination of the suggested changes would push the bike into a whole new price bracket with an entirely different peer group. A 'budget' 1X conversion alone with a decent gear range and narrow-wide chainring will be a few hundred dollars, or a lot more if your derailleur isn't clutch-enabled such as the SRAM X.9 on the Avanti.

I feel that presenting the reviews with these comments is window dressing the many inadequacies in the bike and the reviews should really stick to what you get off the shelf, with maybe a couple of low-cost upgrades suggested if they won't break the bank.

Tim the Toolman

All valid points there Tim. Sometimes the spec of a bike is dictated by the manufacturer's desire to reach a particular price-point and the component selection suffers as a result. In cases where the frame and suspension are worth investing in, the suggested upgrades can be done gradually over time in a manner that's less crippling on the bank account.

Sure it's not ideal, as buying a better spec'd bike up front will usually cost less than a getting a cheaper model and upgrading the parts. Even so, many people travel this path as it can get you out on the trail without the same up-front financial commitment.

As to whether a bike should offer our suggested upgrades at the same price point, well that's a value judgment which is tough to make. Some people may love brand X and will happily overlook some questionable component choices to get a foot in the door. Read it however you wish and if the shortcomings don't appear worth it, nobody is telling you to buy the bike.

We'll certainly take your comments on board in any case and continue to highlight both the good and bad in any bike that we review. Hope the Finishline bike care kit gets put to good use in your man-cave!

Ed





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JILKMINGGAN SCHOOL

I am a secondary teacher at Jilkminggan, a remote aboriginal school in the Northern Territory. Literacy and engaging students with reading material is a huge challenge for teachers at remote schools. I have been a reading Mountain Biking Australia for a while now and happened to have a copy at work. To my surprise, the kids here really enjoyed reading it! I am trying to build a small library for my class that's stocked with engaging and relevant reading material. If you happened to have any back issues that you could send us, it'd be greatly appreciated by the school and our students.

Matt

Awesome to hear the kids like the magazine; budding mountain bikers for sure!

We sent Matt some back issues to stock the school library—always happy to help a good cause where we can.

Ed MBA

Speak out and win!

Voice your opinions and you could win a Finish Line Care Bucket valued at $99.99. It contains a range of essential bike care products. There's a one-litre spray bottle of Super Bike Wash, Multi-Degreaser and a Grunge Brush. Once your bike is sparkling, you can refresh the drivetrain with your choice of Finish Line lube; either Dry Lube to minimise dirt build-up or the long-lasting Wet Lube. The kit even includes a handy Finish Line maintenance guide and the container is perfect for bike washing.

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E-mail your letters to **john@bicyclingaustralia.com**



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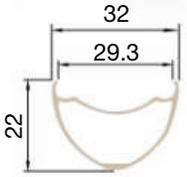


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SHOCK QUERIES

I read the review on the RockShox Monarch Debonair sleeve upgrade in MBA Aug/Sept/Oct 2015, and noticed you mention the Vorsprung Suspension Corset equivalent that's for Fox shocks. I'm wondered if you'd consider the Vorsprung or new Fox EVOL to be a significant upgrade on a VPP bike like the Santa Cruz Tallboy LTc? Trawling through some forums leads me to believe that it may be worth looking but I'm interested to see what you think.

Which option would you choose; Vorsprung or Fox? Would there be potential issues with Vorsprung, like servicing and availability of parts as there's no local supplier?

I do the air-sleeve service for my CTD every six months or so, and haven't had any issues so far. Would you that I periodically get an advanced service with a nitrogen recharge and if so, how often?

Mike

All of these new generation air shocks use a larger volume negative chamber on the air can. The bigger negative spring is better able to overcome the initial resistance that you get in the first part of the travel on an air shock. This works to even out the overall spring rate and make the air shock perform more like a coil shock.

Some bikes stand to benefit more from this than others. Where the bike has a progressive leverage ratio, the suspension has more leverage over the shock in the early part of the travel. This works to overcome the stiction found in the shock, so these bikes tend to be quite supple regardless of the air can design.

Most VPP bikes (Tallboy LT included) run a regressive/progressive spring rate. The regressive part of the leverage curve is at the beginning; from fully topped out through to the sag point. With this, the very first bit of travel can feel a little bit firmer, and this amplifies any stiction in the shock. It should feel good from the sag point on, as this is where the frame has the greatest mechanical advantage over the shock. On a VPP bike these new-style air springs will make the very first part of the travel a little smoother and easier to overcome, which isn't a bad thing.

As to which air can you choose, the Vorsprung product shouldn't pose any issues with servicing and availability of spare parts, as it is compatible with standard Fox air seals. They currently list it at $162 US dollars (including shipping) which is about $227 Australian. Locally the Fox EVOL air can upgrade should cost around $140 for the regular anodised version or $180-200 with the Kashima finish. Based on this, going to your local bike shop should be cheaper.

Servicing wise, the nitrogen pressure that acts on the boost valve in a Float shock can be lost over time. To ensure that it's working as intended, Fox suggests a full service annually or every 125 hours—this is a complete rebuild and the nitrogen will be regassed when this is done. Of course your shock may well go much longer than 12 months without fault but this recommended interval just ensures that everything continues to work as intended. Of course if things don't seem right before you get to this point, it's worth getting it checked anyway.

With the basic air can overhaul that you've been doing, that's great and it's worth sticking to that routine. Wipe the shock shaft clean after every ride and do an air can service every 40-50 hours on the trail and your suspension will last longer and perform as intended.

Ed.



AUSSIE TYRE PRESSURES

I have an Xterra athlete that I coach and he is heading to the Asia Pacifics just south of Wollongong. The track looks hard and fast and I would be delighted if you could forward any info as to the best tyre pressures for this part of Australia.

Bryan Hall
New Zealand

The singletracks at Nowra area aren't overly technical, rocky or rough. It's all pretty hard packed and relatively smooth with decent traction, so fast rolling XC tyres should be fine. The only variable here comes if it rains. There's plenty of clay based soil in the area and once waterlogged, it becomes a diabolical wheel and tyre clogging mess. If it's wet, stick to a slightly narrower tyre with widely spaced tread blocks.

As for tyre pressures, there are too many variables with different bike setups and rider styles to offer an optimal setting for any trail. For example, wide rims can allow you to run 5-8psi lower pressures without suffering from tyre squirm when cornering. Likewise, tyres with more supportive sidewalls will allow you to use lower tyre pressures than if you have super light XC race tyres with paper thin sidewalls. Heavier riders will need more air than lighter riders and so on.

Given the smooth hardpack nature of the trails around Nowra, I think you could run a few pounds more than usual for faster rolling, although you may choose to stick to your 'normal' air pressures so you don't compromise cornering traction (there's plenty of fast and twisty singletrack in the forest).

With 21mm internal rims, 2.2 inch XC tyres running tubeless and a 75kg rider, you may use around 26-32psi as a vague ballpark figure.

Ed.

TIRED TYRES

I'm enjoying Mountain Biking Australia's revised format. Very pleasing indeed—congrats on making the best magazine better.

I noticed in recent Maxxis ads they are promoting their 'Worm Drive' tyre—geez they have been around for a long time! It would have been the mid '90s when I put at set of the then 'new' Worm Drives on my GT RTS3. They rode and cornered very well on hardpack but charging looser

trails invariably lead to a tumble! They also seemed to be a magnet for thorns resulting in many flats.

Back in the saddle about 18 months ago (after 10 years off the bike), the Worm Drives were still seeking out the thorns, so they were confined to a hook on the shed wall, and replaced with a set of Continentals with low profile tread blocks that seemed just as good at finding the thorns.

Whatever happed to tyres like the 'Smoke' and 'Dart' and the IRC GeoClaw? They seemed so good back then! Most current tyres seem to be purely performance oriented with a limited selection available for 'general duty' and just hacking around for fun.

Lindsay Thiele

Glad you like the new look Lindsay.

As for the Worm Drive tyres, if a tyre design works well for its intended use, why change it? The fact the Worm Drive still exists shows the design has merit. However it's pretty much inevitable that a semi-slick design like this will struggle on loose or loose over hardpack trails—they sure are fast though!

Thorns can spell the demise of just about any tyre – there's no avoiding that – but an XC race oriented semi-slick like the Worm Drive will have thinner, more supple casing that's more vulnerable to penetration punctures. Again this will apply to any light and fast rolling semi-slick.

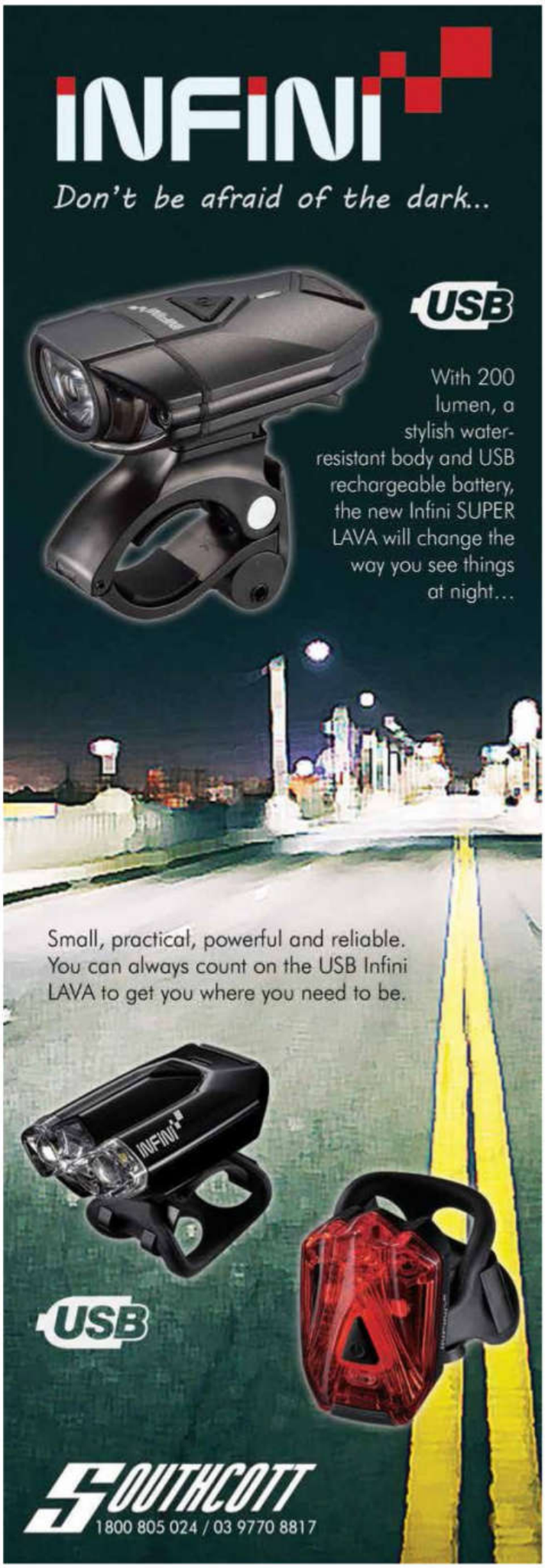
Puncture-wise, the most obvious solution would be to run them tubeless with sealant inside. The thorns will still find their way into the tyre but at least you'll stand a better chance of completing a ride without losing air pressure. Although I'd be very cautious about adding sealant to your '90s era Worm Drives; most modern tyres can be used with sealant but the casing and bead of an older design may fail if used in a tubeless application.

As for a modern-day Smoke/Dart equivalent, well there's a growing number of more robust tyres that are designed for general trail and 'enduro' use. They sit somewhere between an XC race tyre and heavy DH oriented rubber. While they mightn't be super fast rolling like your Worm Drive, they offer far better grip on loose trails and have thicker casing that should be a little less puncture prone. Within the Maxxis brand you could look to the Ardent but every tyre brand will have equivalent middle-of-the-road models. Avoid the lightest and most expensive models as they're typically race focused, with tackier but faster wearing rubber or paper thin XC-race casing. Go with a mid-priced variant and you'll find a tyre that matches your needs.

Ed. MBA



A tyre like the Maxxis Ardent (right) would be a better choice than the Worm Drive (left) for general use on loose terrain.



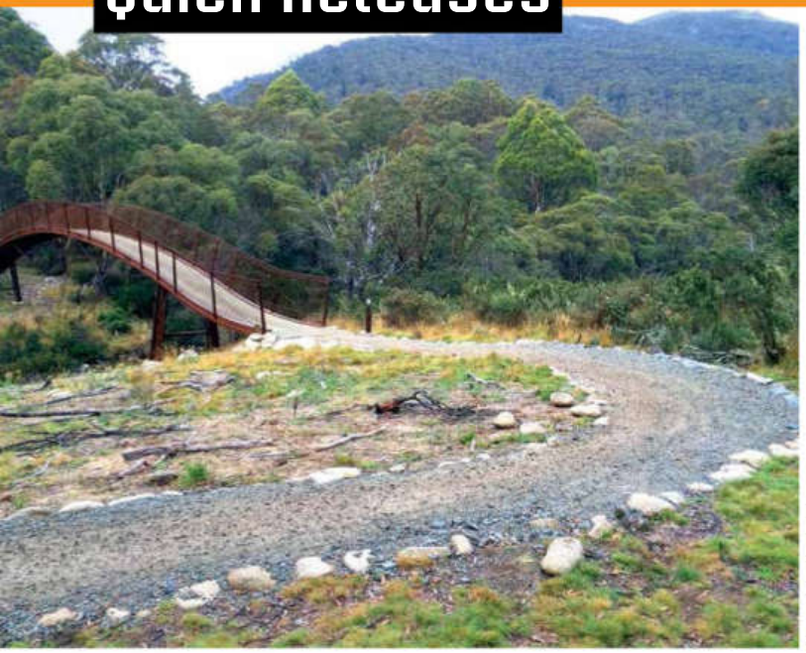


Photo: John Hardwick

THREDBO VALLEY TRAIL EXTENSION

If you haven't ridden the Thredbo Valley Trail yet, then you really should put it on your 'to-do' list. As it stands, it's a 20km point-to-point trip that takes you from Thredbo Village down to Lake Crackenback Resort. National Parks has invested a lot of time and funds into the construction of the trail with a series of massive suspension bridges along the way.

While it's a very easy 'green' rated track, it's still a lot of fun for riders of all levels; although its wide-open nature can lead to riders travelling pretty fast on a trail that also caters for walkers.

The exciting news is that NPWS is looking at a sizable extension to the Valley Trail. Planning is well underway and construction may begin this summer. The extension will take the trail from its current finish point at Bullock Flat all the way down the Thredbo Valley to re-emerge on Kosciusko Road, not far from Lake Jindabyne. Where the existing track is never far from the Alpine Way, the new section will take riders further from civilisation and should just about double the length of the trail.

Most of the current trail is quite wide and non-technical but the new trail is more likely to be a narrower intermediate level trail. As a result it'll be slower going with more technical features. Eventually it will link with the trails around Lake Jindabyne to form a very sizable trail network, extending from Tyrolean Village on the far side of the lake, all the way up to Thredbo.

Beyond this, Thredbo is also working on a new descending trail to complement their existing Cannonball DH and Kosciusko Flow trails. Currently a work in progress, the All-Mountain Trail will provide an even longer descent from the very top of Thredbo that's suitable for regular XC and trail bikes.

We'll keep you posted on future developments via the www.mtbiking.com.au site. You can find out more about the existing MTB facilities at www.thredbo.com.au and www.nationalparks.nsw.gov.au



2000 prototypes thrashed. **200** products conceived. **500,000** yards of fabric cut and stitched. **FORTY** editions of our catalogue produced. **800** races sponsored. **$200,000** dispensed from our Slush Fund for local trails. A **THOUSAND** kilos of coffee beans ground, espressed and imbibed. **MILLIONS** of miles yet to ride. **Pedal on**

OLD GHOST ROAD



BACK in 2014 we featured the Old Ghost Road; a remote back country trail in the mountains near Westport on New Zealand's South Island. At that point 60km of the trail was complete with the middle 20km section still to go.

Since then a number of fundraising efforts have helped the project forge onwards and now there's only a 2km section to complete. While that doesn't sound like much, the track traverses extremely rugged and isolated country, so the final 2km may take a solid three months to complete.

Once the middle section is linked, the Old Ghost Road will be an 85km long epic through some of the most rugged and spectacular terrain you're likely to encounter. In true NZ back country style, you'll find accommodation in mountain huts along the way. Keep up to date on their progress by visiting www.oldghostroad.org.nz.

While the track is predominantly aimed at bike packing adventurers, there are also plans to hold a gravity enduro MTB race on the trail in January 2016 (www.ghostroadenduro.com). It's meant to be a helicopter assisted multi-stage event from Ghost Lake Hut to Lyell Campground. There will be 28km of timed trail with a total elevation loss of 1,300 metres.

NORCO WINNER!

CONGRATULATIONS

Hamish McMorran of Albany WA! Hamish was the winner of our subscription competition from the May/June/July 2015 issue and scored himself a brand new Norco Sight 7.4 Carbon valued at $4,499. Thanks to Advance Traders for providing the prize!





EUROBIKE — WILD, WACKY & WONDERFUL

BASED in Friedrichshafen Germany, Eurobike is the world's biggest bicycling trade show. In addition to the big business of the major bike and product releases, there's also plenty of innovative and quirky ideas that may never hit the market. Here's a look at some of the interesting stuff that we spied in the halls of Eurobike.

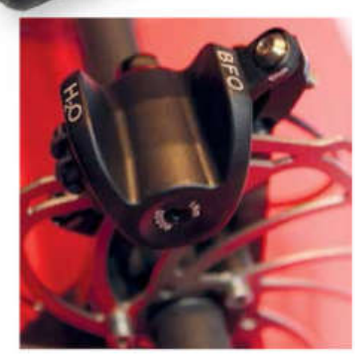
ELECTRIC DROPPER

Magura has released the world's first wireless electric dropper post. Called the Vyron, it offers 150mm of drop and uses ANT+ technology. Aside from offering a tidy appearance, the wireless design makes it easy to swap from one bike to the next. To conserve power a motion sensor puts the system to sleep when it's not in use and Magura claims the battery will perform 400 actions before it needs recharging. Claimed weight is 595g including the remote—we're certainly keen to try this one out!



H2O BRAKES

Small German manufacturer Brake Force One had their unique H2O brake on display. Rather than mineral oil or DOT fluid, this brake uses water, well water with 20% glycol so it doesn't freeze in colder climates. While this may sound freaky at first, it's said to offer a higher thermal capacity and lower thermal expansion rates. Apparently they've tested it heavily by dragging the brakes constantly down 1,500m vertical descents without issue. Like their previous design, the H2O brake will use a two-stage piston that quickly brings the pads to the rotor before ramping up to increase the power. With a price hedging up towards $600 Euro for a pair, I don't think you'll be seeing too many of them on the trail however.





TRAIL TORQUE

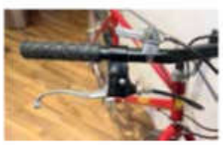
Topeak had a couple of neat products on display. There was a super-compact torque wrench that works in conjunction with a regular multi-tool. It's basically a socket fitting that's pre-set to tighten up to a certain value; either 4, 5 or 6Nm. The socket fits onto any 5mm allen key and comes with 3, 4 and 5mm allen key fittings as well as T20 and T25 torx bits.

MARIN MADRONE TRAIL

From the futuristic to the historic, the Madrone Trail was the first production MTB from Marin and one of the first mass produced mountain bikes. Designed by MTB legend Joe Murray, it sold for $199 when it was released in 1986.







OFF-ROAD E-BIKES

Within our e-bike feature (page 62) we mentioned that e-bikes are big in Europe. This was clear to see at Eurobike where almost 20% of the floor was dedicated to e-bikes. Brands such as Haibike have around 50 different e-bike models within their range with a large number pitched at the MTB enthusiast. Here's some of what we saw…



For 15,000 Euro the Haibike Carbon Ultimate is loaded with super-high-end bits and weighs 17.2kg—that's extremely light for a dual suspension e-bike.



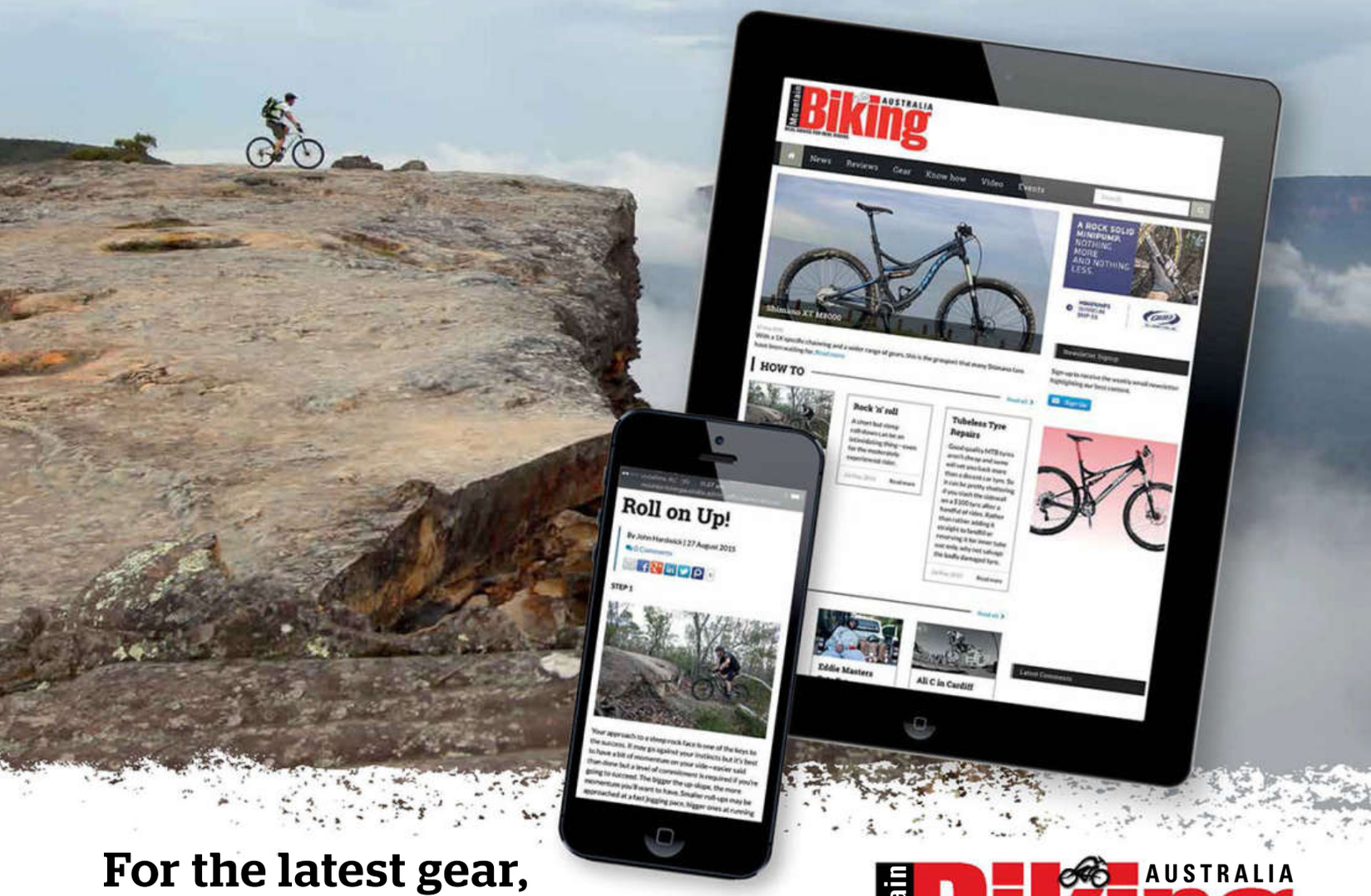
German brand Rotwild incorporates a Brose mid-drive motor and battery into the down tube of this prototype dually to create a surprisingly 'normal' looking e-bike.



Another Euro brand you've never heard of; the Das Spitzing features a carbon frame with 150/160mm of travel and 27.5-plus wheels.

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FEATURE PACKED

Helmet manufacturers are keenly pumping out more and more trail oriented MTB helmets, and the Feature is the latest offering from Giro. It's designed to provide greater coverage than your typical road helmet whilst still offering effective ventilation—especially at lower speeds. The rounded profile and longer 'moto style' visor also gives it a distinctive look. With this model Giro has incorporated the Mips system; it's designed to dissipate rotational energy from an oblique impact. Giro offers the Feature in three sizes and a number of colour options. Expect to pay around $179.

Sheppard Industries 1300 883 305 / www.giro.com



SILENT SHIFT

Offered as a high-end alternative for SRAM and Shimano drivetrains, the German made Connex chains are now offered in an updated 11-speed version. The new Connex 11S0 features newly developed chamfering which aims to produce silent running and smooth gearshifts. It also employs a new radial riveting process which is said to resist high shear forces and guarantee longevity. Best of all, the chain is supplied with a tool-free joiner. Unlike some other joiners, the Connex Link can be reused as many times as you need—some joiners are single-use items. The chain itself retails for around $100 (including a Connex Link) and the reusable joiners can be purchased separately for $39 apiece.

Velo Vita (02) 9700 7977
www.velovita.net.au



LOCAL BREW

Ride Mechanic has a range of Aussie designed and made chain lubes and cleaning products. For chains makes both wet and dry lubes; Bike Milk is their dry product while Bike Cream is the wet lube. For most MTB applications they recommend the Bike Milk; it's said to keep the chain extra clean and free from sticky residue whilst offering drivetrain protection on rides of up to four hours. While the Bike Cream sets up wet and is more likely to attract dust and contamination, it is a longer lasting lube that performs better in wet or cold conditions. One of the best features is that the two lube types are compatible and you can mix a blend that suits your trail conditions. If you find the dry lube doesn't go the distance on longer rides, mix in a bit of the Bike Cream and it'll create a dry lube that lasts a bit longer. A 175ml bottle of Bike Milk sells for around $20 while the Bike Cream comes in at $22 for 115ml (larger workshop volumes are also available).

Ride Mechanic 1300 986 654
www.ridemechanic.com.au

FLAT FOOTING

The 'Coolride' pedal is an all-new addition to the BBB product line for 2016. They feature a large one-piece alloy body with chrome-moly spindles. Double sealed bearings should keep them running smoothly with minimal maintenance and the steel grip pins are replaceable too. BBB offers the Coolride pedals in three anodised colours – black, blue and red – and they should retail for around $99.

Bikesportz (03) 9586 1600
www.bbbcycling.com





ROLLING ON



FSA is well known for their headsets, cranks and cockpit components but recently they've branched out in all different directions, introducing wheels, brakes and even chains. The Afterburner is their alloy cross-country/trail wheelset and they're decked out with a range of worthwhile features. First up the rim is asymmetric; this allows for more even spoke tension and results in a stronger/stiffer wheel. They are supplied with adaptors that allow the front wheel to fit either quick release or 15mm thru-axle forks while the rear adapts between quick release and 142x12mm. While they aren't particularly wide (21mm internal) the rim profile is tubeless compatible and they're supplied with tape and valves. The hubs roll on stainless steel bearings and the wheels are laced and trued entirely by hand. They're reasonably light too, with the 27.5 version coming in at 1,590g and the 29er at 1,660g. Expect to pay $799 for a pair of Afterburner wheels.

Cassons (02) 8882 1900 / www.fullspeedahead.com



OVAL OPTIONS

Absolute Black makes a huge range of chainrings to suit all manner of cranks; from direct mount Cannondale Hollogram through to SRAM, RaceFace Cinch and the latest 2016 Shimano cranks. Their prime focus is on 1X rings with alternating wide/narrow tooth profile and they now offer a growing number of oval chainrings. Unlike the old Biopace rings, the Absolute Black product positions the highest effective gear on the down stroke—right where your legs generate the most power. Across the top and bottom of the pedal revolution, it presents the lowest gear. A 32 tooth oval ring works like a 34T in the power stroke but a 30T through the dead spot. Absolute Black claims this reduces fatigue and improves traction on the trail. Pricing ranges from $85 to $110 and they are available to suit a broad selection of cranks.

SCV Imports (02) 4353 2633 / www.scvimports.com.au

TRAIL TUNING



Sometimes it's handy to have a high pressure shock pump with you on the trail; especially when you're setting up a bike or if you're an obsessive tinkerer. However most shock pumps aren't that portable and they won't inflate a tyre, so you still need to carry a regular pump. The new BBB Dual Pressure pump offers a handy solution, as it can do it all. It starts out as a regular hand pump that inflates either presta or schrader valves. Switch to the high pressure mode and it'll inflate up to 300psi; enough to do just about any rear sort of air sprung suspension. The hose swivels to make inflation easier and it also features a bleed valve, which helps when it comes to getting the shock settings just right. The Dual Pressure pump weighs just over 200g and should sell for $75 (available December 2015).

Bikesportz (03) 9586 1600 / www.bbbcycling.com



LYRIK & YANI

RockShox hit on a winner with their Pike and now they've introduced two new models that are pitched in a similar direction. First up is the Yani; like the Pike it uses 35mm inner legs but it caters for an even broader travel range—from 120mm up 180mm. Weighing just over 2kg, it's a bit heavier than a Pike and it runs a revamped version of their Motion Control damper (not the more upmarket Charger damper). All of this keeps a lid on the price and the Yari should sell for around $1,099 (about $450 less than a Pike). Meanwhile the Lyrik is like a beefed up Pike. The inner legs remain 35mm diameter but sturdier construction adds around 200g to the total weight. Where the Pike tops out at 160mm, the new Lyrik offers up to 180mm travel in the 27.5 version and 160mm in the 29er/27.5 plus size. It runs a high-end Charger damper and pricing will be comparable to the Pike.

Monza Imports / www.sram.com

LIGHT FINGERS



Less is more for some and padded palms don't always equate to greater comfort. Giro recognises this with their Rivet II glove. It features a thin and supple 'micro-vented' pittards leather palm—there's no padding at all, so they should deliver excellent handlebar feel. The uppers are also on the minimalist side; made from a stretch mesh, they are said to be breathable whilst providing a fitted feel. They also incorporate an absorbent microfiber sweat wipe on the thumb and work with touch screen devices. A pair of Rivet II gloves sells for $49.

Sheppard Industries 1300 883 305
www.giro.com



GARMIN REVIVAL

While Garmin GPS units may withstand loads of abuse, they do share one common failure point. A decent sized knock can rip the retainer tabs off the back of the unit. It's more likely to happen if you're using a sturdy aftermarket bar or stem mounts (the stock O-ring style mount usually moves before the tabs fail). UK company Raceware Direct offers an affordable way to resurrect a broken Garmin. This 3D printed nylon repair tab and simply glues on to the back of your GPS—it's specially shaped to match the stub that remains once the tabs break off. The Raceware Direct Garmin repair tab is available in white or black and sells for $25.

Full Beam Australia 0402 046 422
www.fullbeam.com.au



MITAS NÉE RUBENA

Many mountain bikers will be familiar with the Rubena brand name; they've sponsored many local events as well as top-flight pro riders like Rebecca Henderson, Dan McConnell and Jaroslav Kulhavy. Now we'll need to get used to a name change, as the same tyres will soon go under the name Mitas (another brand owned by Czech parent company CGS). For the most part the products will remain unchanged, however they are introducing a new sidewall option called Textra. This is a tough rubberised fabric that's used in the sidewalls to prevent cuts and tears. It's said to add minimal weight and Rubena (or is that Mitas) are confident enough to back their Textra models with a 100 day sidewall guarantee. Both the Kratos and Scylla models will be offered with Textra in 27.5 or 29 inch sizes. These tyres will sell for around $80 each.

Rubena Australia (02) 6292 3687 / www.rubena.com.au





TRUE BLUE

To celebrate the 25th anniversary of their SPD clipless pedal system, Shimano has released a limited edition run of 'team blue' shoes and pedals. This will include XTR Race and Trail pedals as well as the M200 shoe pictured here. The M200 is Shimano's top-end trail and enduro shoe. It's said to combine the weight and stiffness of an XC shoe with added durability, grip and protection for aggressive trail riding. Stiff and durable rubber is used around the cleat for more support when pedalling while a tacky compound is used on the outer edge blocks for grip when walking. The cleat slots also extend further towards the rear, catering for riders who prefer a more mid-weighted pedal position (it's easier on your calf muscles). As Shimano's top-tier trail shoe, the M200 sells for $279 and it's also available in black if the limited edition blue is too bright for your taste.

Shimano Australia (02) 9526 7799 / www.shimano.com.au





AYUP ALTERNATIVE

AyUp lights remain popular amongst mountain bikers but some people don't appreciate the rather agricultural mounting system. Raceware Direct offers an alternative to the stock velcro dots and cable ties; this 3D printed nylon bracket clips to the AyUp light and allows it to fit directly to any GoPro mount. This opens up a multitude of mounting options; from machined alloy handlebar clamps to the tidy mounts that come with many new model trail/enduro helmets. The Raceware Direct AyUp adaptor sells for $35.

Full Beam Australia 0402 046 422
www.fullbeam.com.au



LOW PRESSURE SOLUTION

Schwalbe's Pro Core system has been in development for some time now and it's finally in production form. It's like having a narrow high pressure tyre wrapped around the inner part of the rim. Once inflated, it holds your tyre beads in place and protects the rim against impact damage. With the beads locked down and the rim protected, you can get away with much lower tyre pressures; around 14psi according to Schwalbe. This improves traction and control whilst also reducing the chance of puncturing. The Pro Core system is said to add around 200g per wheel and the kit will sell for around $450 (front and rear complete).

Bike Box (03) 9555 5800
www.bikebox.com.au





BUDGET STOPPERS

A complete set of Clarks M2 brakes sells for $125; that's including two 160mm rotors, levers, callipers and mounting hardware. It's about the same price as you'd expect to pay for a pair of rotors from one of the better-known brake brands. The M2 is a full hydraulic twin-piston brake. They rely on easy to use mineral oil and the callipers fit regular Shimano brake pads, so spares should be easy to come by. How do they perform? Well we're currently testing a set and will report back in the next issue with some conclusions.

Oceania Bicycles (03) 9799 4144
www.ocbicycles.com.au







SUPERSIZED TOOL

If left untracked, chain wear can lead to the early demise of your expensive cassette and chainrings. While chain wear checkers are nothing new, this Aussie made product claims to be more accurate than most. As the name suggests, the 10 Inch Tool is pretty big—most chain wear checkers are around half as long. Measuring an extended section of chain makes it easier to gauge the amount of wear present. Additionally, the tool is designed to measure wear from the same side of the rollers over its 10-inch length. Other devices measure between the rollers at each end, and this can lead to a false reading. The tool also features a longitudinal rib to enhance rigidity (did I just type that?). Ride Mechanic offers the 10 Inch Tool in two versions; one is calibrated to measure 0.75% wear for multi ring drivetrains while the other is set to 0.65% for one-by systems. With no moving parts it's built to last and should sell for around $55.

Ride Mechanic 1300 986 654 / www.ridemechanic.com.au



wild Wales

Tucked away on the western side of the UK, Wales mightn't be the first place that comes to mind for a MTB holiday but this raw and rugged place has some of the finest riding you'll find anywhere—period. Welsh ex-pat Steve Thomas spills the beans.

Photography by Steve Thomas

Inside and out and from top to bottom I ginned with pure satisfaction. After far too many years away, I'd finally returned to my favourite trail—Lake Vyrnwy in North Wales. This is the place I dream about and a trail that I recount again and again.

The trails around Lake Vyrnwy aren't manufactured with mountain biking in mind. You won't find flow trails and IMBA graded singletracks. Instead you get a rugged and remote riding experience on un-groomed natural trails. My favourite patch is a rutted out cutting between two small hillocks. Overlooking the deep blue lake, it affords views across the distant hills of Snowdonia as well as the Arrans crumpling over the horizon.



"VISIT A BIKE PARK OR TWO FOR SURE BUT IF YOU CAN SPARE THE TIME, PLAN A LITTLE AND HEAD OUT ON AN OLD SCHOOL EPIC AS WELL."

I'd ridden this stretch of trail once a week for more than a decade when I lived there, and it's still the very first place I head when I return home.

Over the past 35 years I've ridden all around the world and been lucky enough to experience some of the most famous trails in mountain biking legend. I've visited more than 50 countries in all, yet when anybody asks, 'where is your favourite place to ride?' I always answer with Wales, North Wales. And then a few seconds later add in 'when the sun shines.'

Thankfully this day was fine; the sun was out in all its glory and I even ended up with some fine red tan lines—a rare occurrence in the UK! This was Wales at its absolute finest. There's no hiding the fact that it rains a lot here – that's why it's so deeply green – and it makes the sunny days all the more rewarding.

Lake Vyrnwy is a picture perfect reservoir in the middle of the Berwyn Mountains. It's the least populated and most remote part in all of England and Wales; a place rippled with mountains, carpeted in forests and wild moorland and spiked with waterfalls and lakes.

OLD SCHOOL HEART

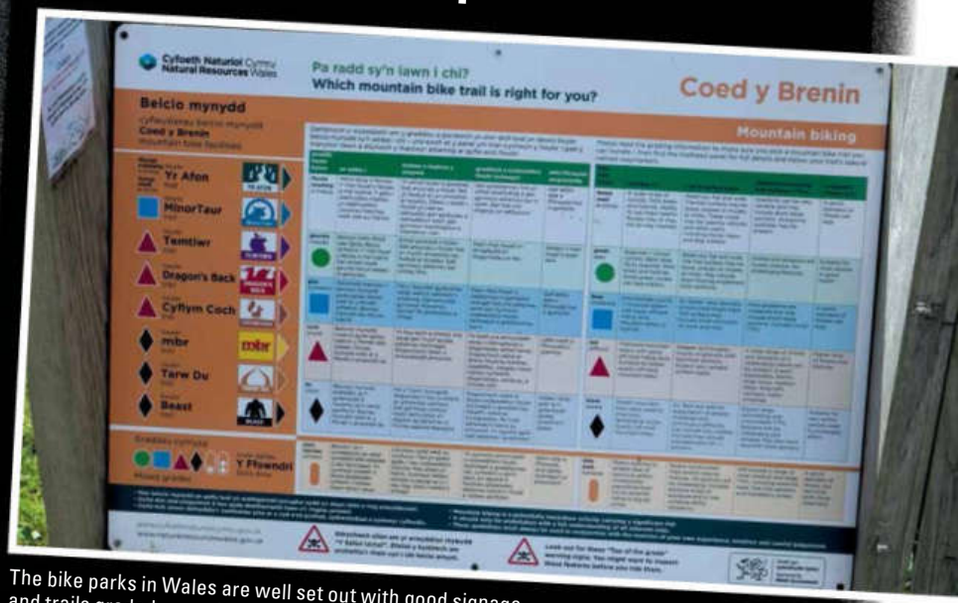
Riding in this neglected corner of Wales is about as old school as it gets; truly wild and rewarding. It's a large part of why I'd made it my home for many years. These qualities also struck a chord with that downhilling super-family, the Athertons, who call Wales home when they're not



Pretty cool setup at the Coed y Brenin trailhead!



Riding Hotspots



The bike parks in Wales are well set out with good signage and trails graded according to IMBA standards.

There's no shortage of superb riding all over North Wales; be it natural or man made, you'll find it around every corner.

If you're riding outside of the trail centres, you need to get acquainted with the basics of legal trail access. It's best to start by purchasing the relevant Ordnance Survey Landranger maps of the area where you want to ride. Bikes are not allowed on footpaths (dotted red lines), but are allowed on Bridleway status trails (dashed red lines) and above, plus on permissive forest trails, which are marked on the ground. Check out www.mbwales.com for a good overview.

COED Y BRENIN

Britain's original true trail centre offers over 100km of superb man made trails of every grade including their all-new Foundry skills development area. It also has a bike shop, showers and a cafe.
www.beicsbrenin.co.uk

DYFI FOREST

The land of enduro; great man made and also natural open ground riding. The Cli-machx loop is well-known amongst local gravity enduro riders; a 15km round trip with 9km of built singletrack and 690 metres of vertical descent.
www.dyfimountainbiking.org.uk

LLANDEGLA

A comparatively small but sweet trail centre offering approximately 40km of marked trails.
www.coedllandegla.com

BETWS Y COED

The outdoor centre of Wales; it has around 100km of natural routes (mainly fire trail riding) as well as two newer trails; the Marin Trail and Penmachno. The Marin Trail is a superb 25km long man made trail that takes around three hours to complete with big climbs and big descents.

MOUNT SNOWDON

The ultimate Welsh mountain challenge, which is actually a huge push with a bike. There are trail restrictions here; access is only permitted during the daytime in winter. During the summer it's out of bounds between 9am-5pm. It's a solid challenge but in reality there are better riding options elsewhere. Nearby Beddgelert Forest also has some decent fire road riding.

THE CLWYDIANS

An area in the far north that's dotted with open moorland and forest trails.
www.ridenorthwales.co.uk

BERWYNS

Big mountains and big scenery; the least ridden area in the region and true adventure stuff. Great riding between Llangynog, Vyrnwy and over to Llanarmon DC with the classic wayfarer trail making for an epic day out. There's also a small freeride park in Llangynog.







travelling the globe—there's every chance you'll find them rumbling through the hills on any given non-race day.

It's hard to convey just how good the riding is in Wales; mainly because those who have not ridden here simply choose not to believe it. After all, it doesn't have the elevation of the Alps, the exposure of Scotland or the hype of Whistler. While that can be a tad frustrating, it's also a blessing in disguise. In Wales the trails remain wild and free, having mostly evaded any conflicts and access issues.

Given the dense population of the urbanised areas of the UK it's hardly surprising that people just don't get Wales, and why it's so great. It's largely untamed, deserted and crisscrossed with accessible yet challenging trails with views to knock you sideways.

NEW SCHOOL OPTIONS

In recent years a profusion of bike parks have really put Wales on the global mountain biking map, and with good reason. They are fully mapped out all-weather mountain biking hot-spots that cater to riders of all abilities with miles of perfectly crafted singletrack.

Coed y Brenin was the first true trail centre in the UK. Located in a remote forest area in the Snowdonia National Park, it's about an hour by road from the Berwyns. It has been around for a long time now but was recently revamped, taking this already great trail network to another level.



Explore beyond the bike parks and you'll find plenty of raw and rugged riding.



25 YEARS
OF GOOD TIMES



GT Zaskar Carbon Elite 27.5

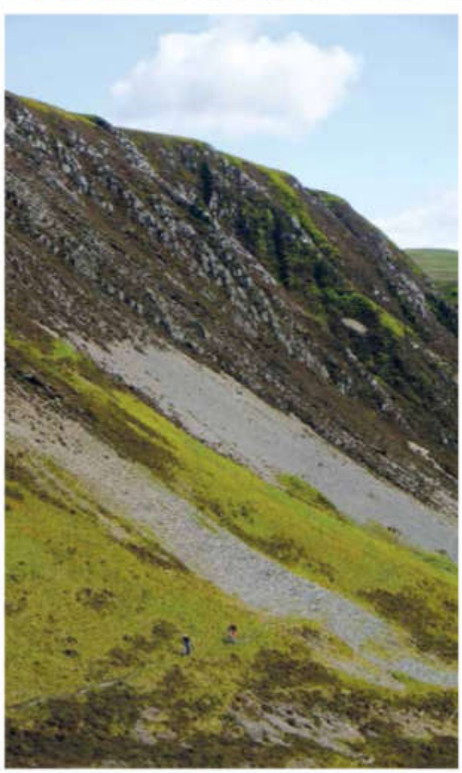
Launched in 1991, the iconic Zaskar is the only bike to have won Cross Country, Downhill, and Trials World Championships. Reimagined for 2016, the new **Zaskar Carbon 27.5** combines the shredability of GT's proven progressive geometry with an efficient and race ready carbon hardtail frame.

Check out the 2016 Zaskar lineup at GTBicycles.com/Zaskar
#ZASKAR25

GT BICYCLES

www.monzaimports.com.au/cycling GT Australia





Whist on my pilgrimage, I decided to take a look at the updated offerings. There's a whole new section that's lots of fun and ideal for skills progression. First off you'll find a well set out skills area known as the 'Training Zone'.

Next up is the 'Singletrack Zone'; it contains manufactured sections of trail that reflect the difficulty levels that you'll encounter in the broader Coed y Brenin network. It allows new riders or those who are unfamiliar with the area to get a feel for the trails and can help you in choosing rides that are a good fit for your abilities.

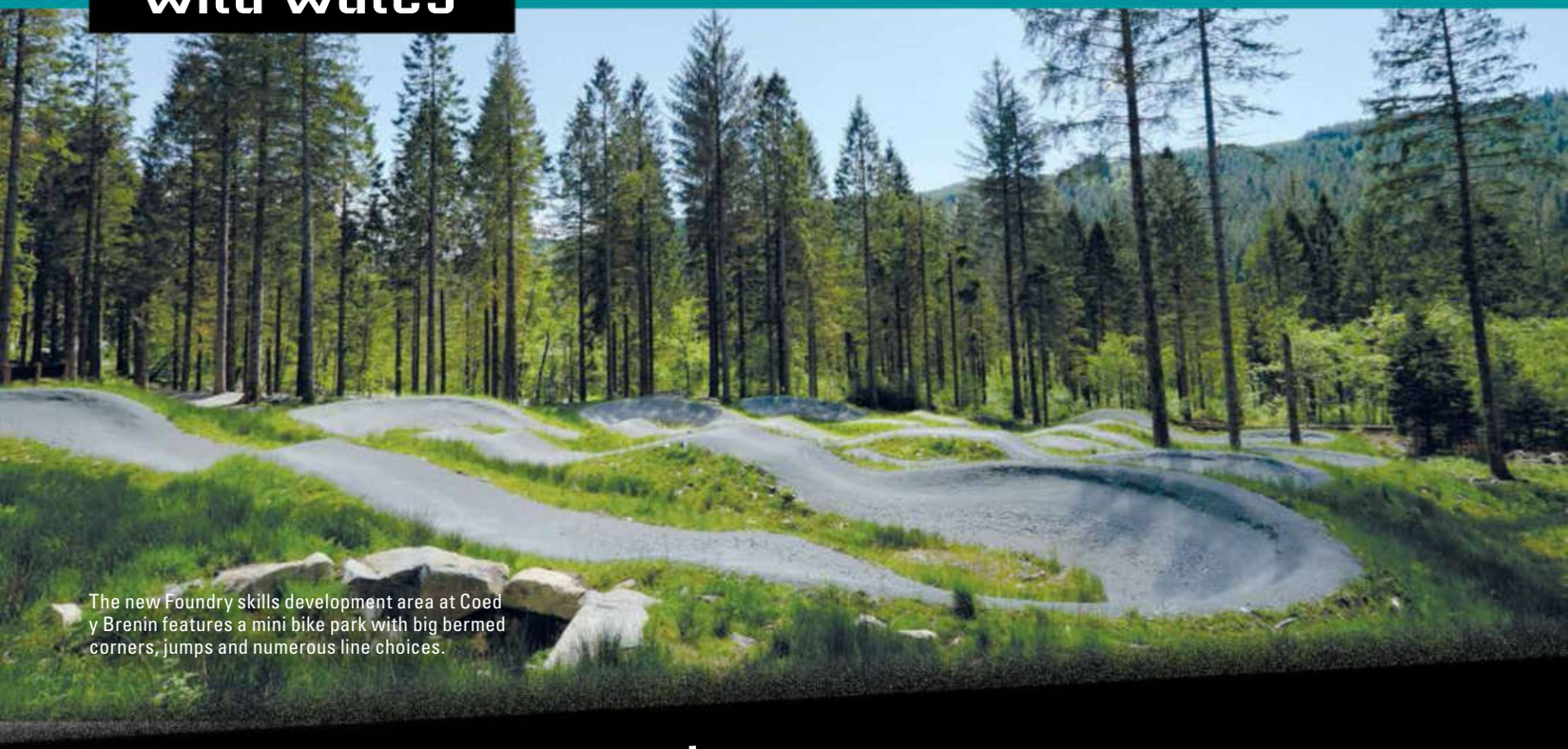
Then there's the 'Freeride Zone'; a compact bike park with wide flowing lines, eight huge bermed corners, jumps, table tops and optional features to practise on. Again a great place to work on your skills and up the confidence level for this style of riding.

Finally there's the 'Dropoff Zone', a spot that includes a feature called the Lemmingstone. It's a large natural rock wedge that offers multiple lines that you can choose to roll, jump or tackle however you like.

An exceptional amount of work has gone into the area and there's over 100km of MTB trail within the Coed y Brenin forest. You can't quibble with the quality of the riding and it's oh-so-easy to tackle—no maps or planning required. Places like this and the multitude of other bike parks in Wales are particularly handy for time-poor visitors who are keen to find the best trails with minimal faffing around.

While trails offer a guaranteed thrill, the manufactured nature of the bike park experience misses something for me. Visit a bike park or two for sure but if you can spare the time, plan a little and head out on an old school epic as well. Exploring an isolated outpost such as the Berwyn Mountains reveals the true beauty of Northern Wales. It's unpredictable, untamed yet truly accessible if you want to tailor your own fat tyred adventure.


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ROCK RAZOR
HANS DAMPF
MAGIC MARY
DIRTY DAN



The new Foundry skills development area at Coed y Brenin features a mini bike park with big bermed corners, jumps and numerous line choices.

General Information

GETTING THERE

Northern Wales is surprisingly easy to get to. Although it is quite an expansive region, it's unlikely to take more than two hours by car to get from extreme to the other.

The best international gateway airport is Manchester, which is just 1.5 hours by road from the Berwyns. Birmingham is 12-20 minutes further while London is a three to four hour drive.

The easiest option by far is to rent a car, as public transport is sporadic here. Most major rental companies have outlets at the airports and you can expect to pay around $30 and up per day for a car.

Bikes and trains don't always mix in the UK, and there are not many stations in this region. If you do decide to go on the rails you must bag your bike and check availability in advance. Gobowen railway station is the best gateway for the Berwyns; it gets you within 30km of the mountains.

For Snowdonia you can get to Llandudno Junction and then hop a connection to Betws y Coed. There are also stations all along the coastline.

For Coed y Brenin the nearest rail station is Barmouth, while Machynlleth is the access town for the trails of the Dyfi Forest.

For details check www.nationalrail.co.uk

WHEN TO GO

The weather in Wales can be pretty fickle to say the least. By far the best time to visit and ride is between April-October, although it can rain at any time.

At the end of August the hills come alive for a couple of weeks as the heather blooms—it's quite amazing. Springtime (April-May) also sees plenty of wildflowers and the Welsh daffodils are also briefly in bloom. October is also amazing for its autumnal colours.

Bank holiday weekends (first and last weekend in May, Easter and the last weekend in August) are crazy for travel and accommodation in the UK. Try to avoid them or go for a mid-week for the best conditions and deals.

The man made trails are all slate or stone bedded and make for great year round riding.

EAT, SLEEP & DRINK

Overall you should expect to pay around the same as at home for rooms and consumables in the UK. In remote areas such as the Berwyns, things can be a bit cheaper, while in Snowdonia they will be slightly more.

There is a distinct shortage of lodging options in the Berwyns, as few people visit. There are many small pubs and B&Bs dotted around, and the best areas to stay are Llanrhaedr ym Mochnant, Llangynog and the well facilitated lakeside town of Bala, which also has a number of bunk houses and campsites.

For the northern reaches Llangollen is a great base, with plenty of sleeping, eating and drinking options.

Camping is a great option during the summer. There are some great sites with amazing views and facilities and they cost around $12-$20 per night.

Snowdonia can get very busy during July and August, especially in Betws y Coed. The Welsh 'low-key outdoor capital' of Llanberis has some decent options at cheaper prices, while campsites and Youth Hostels can be found all over.

Around Coed y Brenin there are few options and Dolgellau is the closest town with a selection of B&Bs. A little further away is the charming old coastal town of Barmouth, which has campsites and B&Bs galore. Another great option for Coed y Brenin is the 'Old Skool MTB'; a B&B that's dedicated to mountain bikers: www.oldskool-mtb.co.uk

Macynlleth also has lots of camping and B&B options.

BIKE SHOPS & HIRE

Bike shops and facilities are a little sparse in most rural areas, although with the growing number of mountain bike trails things are improving.

There's a decent store in Oswestry; Stuart Barkley Cycles (www.oswestrycycles.co.uk). In Betws y Coed there's Beics Betws behind the post office (www.bikewales.co.uk) and in Porthmadog is KK Cycles. There's a basic store in Bala; RH Roberts Cycles. The Coed y Brenin trail centre has its own shop (www.beicsbrenin.co.uk), and there's also at Llandegla (www.oneplanetadventure.com).

THE WELSH BIT

The Welsh language has almost nothing in common with English. It's widely used and also now heavily taught in schools. Most road signs have place names in both Welsh and English, but everybody speaks English (except when they choose not to).

It has to be said that in general the Welsh and the English are not too fond of each other. This especially the case in certain remote pockets such as Bethesda and Bala—you would not want to be English on a late weekend pub night. Aussies are all good though! MBA

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More great singletrack on day two but don't get distracted by the view!

Singletrack GOLD

Victoria's Goldfields Track offers a multi-day off-road adventure that's rich in history and singletrack with great food to boot—what more could you want!

Article by Wil Barrett | Photography by Timothy Arch

With bikes and gear in tow, we boarded the V-Line service at Southern Cross railway station in Melbourne. We were bound for Ballarat, the starting point for a 200km point-to-point MTB trip through regional Victoria. The three-day journey heads north from Ballarat, taking in the historic gold rush towns of Daylesford and Castlemaine, before finishing up in Bendigo.

We'd already heard a lot about the Goldfields Track. While it's traditionally a walking trail, mountain bikers have been tackling sections of the route for years; the middle leg in between Daylesford and Castlemaine has long been regarded as one of the best point-to-point day rides in Victoria. More recently however, there has been a significant push from state government to open the track to mountain bikers.

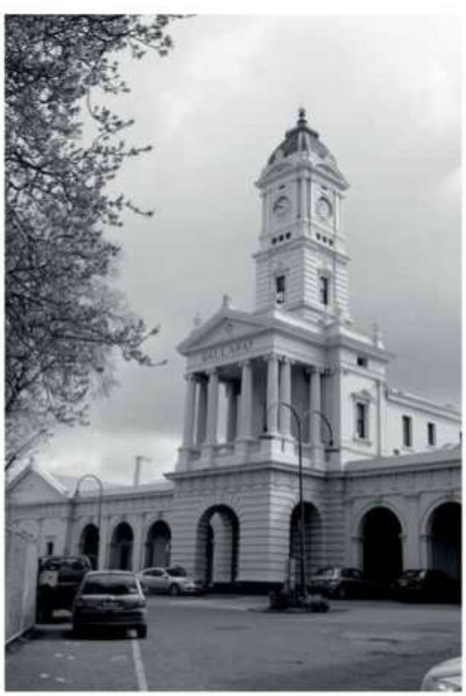
Over the past five years the trail has gained updated signage and some new bicycle specific sections. Tourism operators have also gotten on board with a number of bike-friendly accommodation and service options. All told it's made the proposition of riding the entire track far more attractive if you're not into the minimalist camping/bike packing thing.

We enlisted a little logistical help from Tread Harcourt and utilised the numerous food and accommodation options along the way. This allowed us to tackle the whole enchilada with only daypacks, making the singletrack strewn sections all the more enjoyable.

Singletrack Gold



"ALTHOUGH THIS MARVEL OF GOLD RUSH ENGINEERING WAS BUILT SOME 120 YEARS AGO, THE MINERS MUST HAVE HAD MOUNTAIN BIKERS IN MIND."



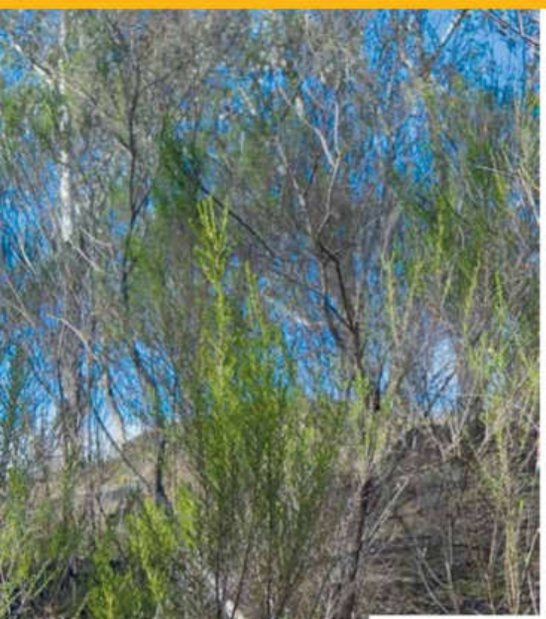
RICH HISTORY

During the Victorian Gold Rush era in the 1850s, scores of people from all around the country and all over the world flocked to the Victorian Goldfields in search of their own personal fortune. Word spread quickly about the precious metal's abundance, with Mount Alexander being one of the richest shallow alluvial goldfields in the world. Over four million ounces of gold was discovered in the area, with the majority of that being found within five metres of the surface.

By 1852 it's estimated that some 92,000 newcomers had arrived in Victoria, and by 1860 the population of Victoria had increased ten-fold to 540,000. Due to heavy taxes imposed on those arriving at port in Melbourne, many Chinese migrants chose to disembark at Robe in South Australia. With 500km between their arrival point and Bendigo, these international gold seekers made the remainder of their journey into Victoria by foot. Over time, an established route formed through Western Victoria and parts of the Goldfields Track follow the same paths that those early pioneers traversed.

LONG-HAUL LOGISTICS

To make the most of the riding and everything else that the region has to offer, we got in touch with Andy Bos from Tread Harcourt Café. Andy and his partner Paula Ewing purchased the Harcourt Pub back in 2013 and have converted it into a great café and accommodation option for cyclists. They also offer guided tours of





LEFT: Wil gets his elbows out as the track turns rocky and technical near Vaughan Springs.

RIGHT: No man made berms or rollers here but still a perfect flow.





the Goldfields Track and can assist with pickups, drop-offs and gear transfers. Of course if you're more the bike-packing type, you could always ride self-supported and utilise the many campsites along the route.

Starting from Ballarat, Andy advised that the Goldfields Track would break down nicely into a three-day journey, with each day's ride running between five and seven hours. Of course you can always tack on a few additional days if you want more time to explore the towns that the track takes you through.

DAY ONE: BALLARAT TO DAYLESFORD (70KM)

We met Andy at Ballarat station, and over a silky flat white at Yellow Espresso, he whipped out the trail map to show us where we'll be heading for the day. As it turns out, the true start of the Goldfields Track is on the summit of Mt Buninyong, 20km southeast of Ballarat. This is hallowed ground for road cyclists, as it has played host to the Australian Road Championships many times.

Most mountain bikers start at Ballarat to remove the on-road section, but future plans include purpose-built singletrack from Mt Buninyong, which should make for a ripping descent. We took Andy's advice set out from town to get straight into the good stuff.

The section from Ballarat to Daylesford is known as the 'Wallaby Track', and it contains some of the most diverse environments that you'll ride through over the entire route. It kicks off with a mixture of dirt bike tracks and 4WD trails before merging into singletrack as it climbs towards Creswick.

With its rooty and shaley surface, the tracks here are about as natural as it gets. Every now and then we'd hit an open double-track descent that would encourage you to let off the brakes and just plough at eye-watering speed. Despite heavy rains earlier in the week, we only encountered a few puddles throughout the day. That's part of the beauty of the Goldfields region; the fast draining soil makes it a great all-weather track.

After passing through Creswick, we ducked back into the bush to begin the steady climb up the southern face of the Great Dividing Range. This side of the range can be cold and wet pretty much anytime of the year, so carrying a lightweight waterproof jacket is a must. The climb takes you up to Wombat State Forest and the temperature drops a couple of degrees. Densely packed ferns line the forest floor and moss covers the taller trees like furry green jumpers enclosing each trunk.

Clocking up just over 70km for the day, the last part of our ride took us along a rocky escarpment that feeds into Lake Daylesford. We rode past the original hand pumps used to extract the mineral-rich spring water from the ground, signalling our arrival in Australia's spa capital; Daylesford.

After a recovery pint at Jimmy's bar, we checked into the Continental House Hepburn—a new cycling-friendly partner of the Goldfields Track. Just next door is the Hepburn Bathhouse and Spa. After seven hours of saddle time, we welcomed the opportunity to soak in the mineral-rich hot pools.

A hearty meal at the Old Hepburn Hotel wrapped up the evening. This pub dates right back to the gold rush times and they now offer a courtesy bus, which saved our stiff legs a stagger home.

DAY TWO: DAYLESFORD TO CASTLEMAINE (61KM)

We woke feeling suspiciously refreshed—perhaps every mountain bike ride should finish at a mineral hot pool! After some muesli, fresh fruit and a good mug of filter

coffee we headed out on the Dry Diggings track; one that's well known amongst local mountain bikers.

There's no messing about on the first stretch of the day; a solid heart-starter of a climb out of Hepburn Springs. Lungs were opened up while tender backsides were gingerly reintroduced to saddles. It wasn't long before we had Mt Franklin in our sights. A fast snaking descent took us right to the gates of the Chocolate Mill, where we enjoyed our second coffee for the morning and some beautiful handmade Belgian chocolates.

Next the Goldfields Track sent us past Mt Franklin on a series of dirt roads with views of the rolling pastoral landscape. Mt Franklin (648m) is an extinct volcano that rises out of the otherwise flat plains like a solitary green pimple.

Before long we reached Porcupine Ridge Road and we're slung back into some fast-paced rocky singletrack. This 15km section winds gently downhill and features some of the raddest natural flow trails I have ever ridden. With everyone strung out in a singletrack train, my thumb hovered over the dropper remote as I leant the bike further and further over through successive turns. There are no man-made berms or heavily built-up features, just natural flow at its absolute best. This section is without doubt the highlight of the second day, and possibly the entire Goldfields Track.

Lunch was at Vaughan Springs, where a series of loose rocky chutes sent us down into the gorge. Home to the Lawson Mineral Spring, Vaughan Springs also has a beautiful campsite positioned alongside the Loddon River. On a warm day, this idyllic swimming hole is a perfect spot for a mid-ride dip.

Climbing back out of the gorge on the other side of the river, the rocky ascent offered plenty of opportunity to test out our low-speed technical climbing skills. Chunky rock slabs and tight corners gave everyone a serious upper body workout.



After passing through Fryerstown, we hit the beginning of the Poverty Gully water race just outside of Castlemaine. Although this marvel of gold rush engineering was built some 120 years ago, the miners must have had mountain bikers in mind when they designed it. Riding through burnt out trees with the water race to your left, this six-kilometre descent winds its way down the hillside, getting faster and looser the further down you go. It's a brilliant and heart-pumping climax to complete a very sweet day of riding.

A final roll down the hill took us to Castlemaine's town centre. The sun was setting as we parked our bikes outside the Public Inn and settled in for a few beers and some exquisite tapas. Just as the food coma began to set in, Andy and Paula threw our bikes on their 4WD and we headed to the nearby town of Harcourt where we spent the night at Tread. Although we'd only racked up six hours of riding, fatigue from the previous day had caught up; I'm pretty sure I was asleep before my head hit the pillow!

DAY THREE: CASTLEMAINE TO BENDIGO (58KM)

The final day of our Goldfields journey turned on the best weather of the whole trip. After a fresh espresso and some tasty Bircher muesli, we covered our arms with sunscreen rather than the arm warmers from the previous two days.

Taking us from Castlemaine to Bendigo, the Leanganook track is currently the mellowest section of the Goldfields Track. The start of the day doesn't feel particularly mellow however, as there's plenty of elevation gain to kick off with. We pedalled up some steep stem-kissing fire roads through a pine plantation. Known as 'The Pineys', this spot is home to some of Castlemaine's best mountain bike trails.

At 744m high, Mount Alexander's elevation might not sound impressive but the way it rises from the otherwise-flat landscape makes it appear far more intimidating. It's a popular hill climb loop amongst road cyclists while the rocky outcrop on the western face is often dotted with rock climbers.

The Goldfields route is supposed to head around the north western side of the mountain, but Andy took us on a detour to give us a peek at the site for the proposed Harcourt MTB Park. This former pine plantation is expected to contain around 16 loops and 35km of trail.

From Mount Alexander the remainder of the day was largely downhill. We latched onto some singletrack along an old mining water race, which took us over gentle rolling terrain. As we neared Bendigo, the trails got drier and rockier and the bushland took on muted brown and silver hues. Some crazy loose and fast Bendigo-style double track descents kept everyone's brakes running hot.



ABOVE RIGHT: Soaking up the views from the top of Mt Alexander on the final day.

RIGHT: Signage is improving on the Goldfields but it's still worth taking a map.

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At about three o'clock we cruised into the Spring Gully trailhead, before making a beeline for the One Tree Hill pub. After the heavy climbing earlier in the day, the gradual descent after Mount Alexander was a perfect way to complete this 200km journey. Of course a few glasses of lager in the beer garden with our riding buddies went down well too—a great way to conclude a stellar MTB trip!

GOLDFIELDS FUTURE

Riding the Goldfields Track completely exceeded my expectations. It's a rewarding expedition that offers beautiful scenery along with fantastic food and history along the way, but it was the riding that blew me away. The good news is that the quality of riding is only going to get better.

There are plans to further upgrade the track and you'll see more purpose-built singletrack being sculpted into the existing route. Long-term plans include the creation of several 'hubs' along the route, each with a dedicated mountain bike park.

Trail networks are planned for the Canadian Forest just outside of Ballarat as well as Creswick, Harcourt (at the base of Mt Alexander) and another at Spring Gully near Bendigo. The Goldfields Track will link them all together, encouraging mountain bikers to spend much more time exploring the trails within the region.

We're pretty darn excited about the potential of the Goldfields region, as it's already a terrific place to ride. Throw in all of the wonderful wineries, craft breweries, culinary delights and friendly accommodation options, and you've got every reason to start organising your very own Goldfields adventure. MBA

General Information

GETTING THERE

Whether you choose to start from Ballarat or Bendigo, the Goldfields Track is an easy trip from Melbourne by car or train. With the point-to-point nature of the ride, catching the train makes sense. The trip to Ballarat costs $12 and takes just 90 minutes aboard a modern sprinter train with specific bike storage. I'd recommend starting from Ballarat as it makes the overall gradient more downhill.

If you choose to drive or you just want to ride a specific section of the Goldfields Track, get in touch with Andy Bos at Tread Harcourt. They offer a pickup and drop-off service along most of the track. www.treadharcourt.com.au

TRACK INFORMATION

Consult the Goldfields Track website when planning out your trip. This is an invaluable resource for trail maps, accommodation options and riding information www.goldfieldstrack.com.au

WHEN TO VISIT

Autumn and spring are definitely best. Although you can easily ride the Goldfields Track year-round, the best times are usually in the shoulder seasons. You'll get mild days with perfect riding temperatures and miss the sunburn and snakes of summer. You can certainly ride the track through winter, but temperatures can plummet towards freezing around Ballarat and Daylesford.

ACCOMMODATION

There are plenty of accommodation options through the Goldfields region with some offering cyclist-friendly service.

Our first night was spent at the Continental House in Hepburn Springs; a beautiful 1920s guesthouse. www.continentalhouse.net.au

Tread Harcourt offers comfortable and affordable lodge-style accommodation and they've got a bike washing and repair area with a secure lockup. The café is brilliant too.

Other options include historic cottages, barn houses, a renovated scout hall and even indoor camping space at an old primary school. There is also a multitude of campsites

Again you'll find a comprehensive listing at www.goldfieldstrack.com.au

FUELLING UP

One of the best aspects of the Goldfields Region is the produce. There are some incredible backcountry dining experiences for those who need to replace the calories burned from a day's riding, and the numerous wineries, cideries and breweries on route make this trip so much more than just about the riding. For the foodies out there, you're going to fall in love!

Based on our experience, the following are well worth a look:

- Yellow Espresso Café in Ballarat
- Old Hepburn Hotel www.oldhepburnhotel.com.au
- Daylesford has a plethora of well-regarded restaurants and cafes
- The Chocolate Mill www.chocmill.com.au
- The Public Inn (located in the old Castlemaine fire station) www.publicinn.com.au
- RePublic Café Castlemaine (a regular pre and post-ride hangout for local cyclists)
- Check out the cellar doors of Bresse and Henry's of Harcourt for delicious cider

TRIP TIPS

- Take water. Plans are in place to improve the availability of drinking water but currently you won't find many drinking taps outside of the town centres. Taking a two or three litre a hydration pack is a must.
- Get yourself a map! Signage has improved along the Goldfields Track, but it never hurts to be sure. For $30 the 'Walking Guide' is not only an informative read but it also maps out all of the specific mountain bike diversions. www.GDT.org.au
- Suspension is your friend. Although there is a good dose of 4WD track and fire road, resist the temptation to take a race hardtail or cyclocross bike. The singletrack is laced with chunky rocks and you'll be more comfortable with a dual suspension bike after three days of riding.
- Tubeless is bliss. The shale and quartz of the Goldfields region loves to eat lightweight race tyres. Punctures and sidewall cuts are the most common mechanical experienced on the track, so take spares. Tubeless will get you more pinch-flat protection, but make sure you're running tyres with robust sidewalls.
- Explore beyond the singletrack. Read the information boards, watch out for historical markers and learn what it was like for migrant gold miners back in the 1850s. Also check out Hepburn Bathhouse (www.hepburnbathhouse.com) and Castlemaine Art Gallery (www.castlemainegallery.com).

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LIMAR
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Article by Steve Hinchliffe | Photography by John Hardwick

Fox Float 34

The 2016 Float 34 has undergone a complete overhaul, coming out leaner and faster than ever, but can it match the well-established competition in the 140-160mm trail bike market?



Up until a few years ago, Fox arguably made the standout mid-sized fork on the market; their 36 RC2 was the slider that others imitated but never bettered. Then along came the reworked Pike from RockShox, and everything changed. Since its release three years ago, the Pike has held aloft the crown as reigning champion of the 140-160mm travel crowd, and rightly so; it's been plusher, more controlled and lighter than anything else on the market. Competition is a great driver of technology, however, so Fox went back to the drawing board to rework their 34 series forks in an attempt to overthrow the throne; an attempted title-fight rematch if you will.

I've been riding the Factory series 34 Float for a few months now on two different bikes and reckon I've got a pretty good handle on how it performs in a wide variety of riding conditions. Of course the question you all want to ask is 'is it as good as the Pike?' The short answer is 'yes', but for a more detailed review of how Fox managed to come back swinging, you'll just have to keep reading...

First up, let's talk some numbers; our top of the line 140mm travel Factory series 34 will set you back around $1,399. With an uncut steerer and axle it weighs 1,787g. There is also a lower priced 'Performance' series fork with a simpler damper and non-kashima stanchions that weighs the same but sells for $899; we'd expect this one to be a common spec on new bikes. This makes the 34 about 85g lighter than its competitor in the same configuration. While we wouldn't expect the typical 34 buyer to be overly weight obsessed, it shows the Fox team has done a sterling job at trimming weight. The reduction comes from the completely overhauled lower legs, as well as a lighter crown/steerer and the switch to an air negative spring (it used to have a coil negative spring).

> "SO IS THE 2016 FACTORY FLOAT 34 AS GOOD AS THE PIKE, YOU ASK? ABSOLUTELY. IS IT BETTER? THAT'S A MUCH HARDER QUESTION."

If you're worrying that Fox have removed weight at the expense of stiffness, then you can rest easy. On the trail I couldn't feel a difference between the 34 and the slightly wider-legged Pike, and my highly scientific 'take the axles out and flex the legs' test didn't reveal any significant difference either. The 34 steers exactly where you tell it to and it will hold that line until you tell it otherwise—that's exactly what you want given the abuse 160mm travel forks are expected to cope with these days.

FIT4 ANYTHING

Along with a new chassis, the 34 has a new damper; it's the fourth variant of Fox's FIT sealed cartridge unit and is aptly named FIT4. Apparently a lot of the technology is trickle-down stuff from the newest 36 series, including a larger damper shaft to allow higher oil flow through the piston. There's also a dual-stage rebound circuit claimed to improve both control on big hits, as well as allowing for rapid return on successive smaller impacts. There's still a three-position switch atop the fork's right leg, but it's a very different beast to the previous CTD (Climb-Trail-Descend) adjuster.

CTD had a very soft (some would say almost unsupported) mid-stroke in the Descend setting, a low to moderate pedal platform in Trail and a firm platform in the Climb setting. Top tier forks gave you a second adjuster to tune how firm you wanted the Trail mode by altering low speed compression damping. The new FIT4 damper is simply labelled Open-Medium-Firm; the open mode still feels supple but much more controlled throughout the full length of its travel, the medium setting is firmer with a good balance between plushness and efficiency, and the Firm setting is now almost a complete lockout. The lockout is of questionable value for off-road riding, but both the Open and Medium settings saw plenty of use; open for descending and rough trails and Medium for buff trails or climbing.

Factory level forks like ours still have an extra fine tuning adjustment over the more basic Performance series, but now it adds low speed damping to the 'Open' mode instead of influencing the middle setting. The extra Factory dial has around 20 quarter-turn clicks of adjustment; wound fully in it feels like it overlaps slightly with the 'Medium' setting, whilst wound fully out it's light enough to not feel at all overdamped, even for my fairly modest 70kg riding weight. Most of the time I ran the open mode at its lightest possible setting, and although I did experiment with a few more clicks, it really wasn't necessary. For riders at the other end of the weight spectrum, there's plenty of adjustment range to tune brake dive out of the Open setting. The difference between clicks is pretty minimal so arguably Fox could have covered the same range of adjustment with fewer clicks and less wrist twisting, but as it is there's the possibility to really dial in your perfect setting.

SPRINGING BACK

Fox have struggled a little with their air spring curves at times. Five or more years ago it was almost impossible to get full travel out of their air forks, whilst for the last couple of years many have criticised them for being too linear. The new 34 seems to have hit the goldilocks spot though, with a new profile that feels supple at the start of the stroke, holds up in the middle third and ramps up smoothly towards the end of travel. Riders of different weights and styles can also tweak the level of progressiveness by adding or subtracting volume spacers from under the left hand top-cap. These little plastic numbers clip directly beneath the cap, and whilst two are installed from the factory, four more are supplied with the fork for those who want serious bottom-out resistance.

It takes about two minutes (literally) to change the number of volume spacers. All you need is a shock pump and a quality shifting spanner—just make sure you let all the air out first or you could have an exploding top-cap to the face! I settled on two different settings depending on usage. For more aggressive riding with bigger drops I ran 65psi and two volume spacers, and for mostly wheels on the ground action I went with 62psi and no spacers. It's definitely worth taking a little time to get the 34's air spring set up to your liking, especially when tuning it is so easy and all the parts are supplied.

As mentioned earlier, the new 34 Float runs an air negative spring instead of the previous coil version. The main goals here were weight reduction and to ensure that the negative spring pressure stays proportional to the positive spring for riders of all weights. The only potential downside of this design is that you can no longer adjust the available fork travel by simply repositioning spacers on the piston rod. Instead you need to buy a different length rod—in this regard it's no different to its main competitor. Fox have kept the price of these to around $50, so it's not a huge outlay if you do decide to step your fork up or down slightly.

3+4=10

Out on the trail, the new 34 Float proves the old adage that sometimes the whole is greater than the sum of the parts. Taken in isolation, the changes Fox have made to the 34 series forks are substantial, but when added together they complement each other perfectly to create a supremely confident all-round fork. Sometimes a suspension unit might have a great damper but a flexy chassis, or a stiff chassis but a compromised spring rate; the new 34 Float simply doesn't have any obvious weaknesses to speak of.





You can set it with 20-25% sag for maximum traction in the rocks and it'll still sit up high in the travel. When you hit something substantial it'll offer up just the right amount of travel to soak up the impact whilst always seeming to have a little in reserve. Land a big drop or launch to flat and it doesn't want to pogo you off the bike, but nor does it pack down when encountering a carpet of roots at maximum speed. Set it up right for your weight/style and it'll tackle anything from near World Cup descents through to epic stage races—it'll take it all in stride.

So is the 2016 Factory Float 34 as good as the Pike, you ask? Absolutely. Is it better? That's a much harder question. Both forks are brilliant in a wide range of conditions; they have so little weight yet so much stiffness and adjustability that any pros and cons either way are insignificant. In terms of performance, I'd say it's a dead heat—like the Tied Test. The 34 offers a slight weight advantage however, and if it proves to be reliable in the longer term, this may be enough to sway the masses and reclaim the title. For the moment it'll have to share the crown but it's certainly a prime option for suspending the front of your 140-160mm travel trail bike. MBA

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Article & Photography by John Hardwick

Shimano XT vs SRAM Guide









When it comes to disc brakes, SRAM and Shimano remain the two most popular options. We pit their latest offerings head to head and compare their performance.

SRAM is working hard to shrug off a somewhat shaky reputation by producing some really good brakes. Meanwhile Shimano is worshiped for their brakes and continues to refine their already successful products. As we've spent quite a bit of time on the latest Shimano M8000 brakes as well as the new SRAM Guide RSC (reviewed in MBA FMA 2015), we thought it was worth taking a look at how they compare.

STATS & FACTS

Both brakes and are similarly priced; they're typically in the $220 to $250 range for the calliper and lever (add $55-$65 extra per rotor). They are similar in weight too; our front XT lever, calliper and hose was 275g while the Guide RSC was 265g. Factor in an extra 116g for a 160mm six-bolt Shimano Ice Tech rotor, or 114g for the equivalent SRAM Centerline and you're splitting hairs to say there's a meaningful difference.

Where Shimano runs a pair of large 22mm diameter ceramic pistons, SRAM employs a compact four-pot calliper with 14mm and 16mm pistons. There's tool-free reach adjust on both brakes and a bite-point adjuster too. The Guide bite-point works via a dial and noticeably alters the amount of free stroke at the lever. This is handy if you have a particular set up preference; maybe you like a lever that grabs just after you touch it or you may prefer a brake that doesn't work until the lever is almost at the bar—either is possible with the Guide. A screwdriver is needed for the Shimano levers and adjusting it doesn't seem to change the amount of free stroke.

INSTALLATION & INITIAL SET UP

Split clamps feature on both SRAM and Shimano levers, so they can be mounted without removing the grips or gear levers. SRAM's hinged clamp design seems more likely to mark the handlebars. You need to use grip paste when installing the SRAM levers; doing so reduces the clamping force required to keep everything in place and minimises the risk of handlebar damage. Neglect this simple step and you may wind up over-tightening the clamp, which is potentially dangerous on lightweight handlebars. By comparison, the Shimano clamp has a smooth inner radius that's kinder on lightweight bars.

As SRAM uses an ambidextrous lever, you can mount them on either side of the bars without needing to swap the hoses. Shimano levers are left and right hand specific, so altering the lever orientation will force you to disconnect and swap the hoses.

When aligning the calliper, it was easier to get the Shimano brakes running drag-free. The pistons retract further, providing a clear gap on either side of the rotor that makes this part of the set up a breeze. We were always able to eliminate the rotor drag on the Guide brakes too, but the long pads and tighter clearance means some extra patience is required.

BLEEDING

A basic bleed on the Shimano brakes will deliver a nice solid lever feel with minimal mucking around—this attribute has earned them many fans. While our XT brakes always felt good at the lever, we experienced some variability in the amount of free-stroke. In our initial review on the M8000 groupset, we mentioned that the brakes would 'pump up' on some descents and the first two bleeds didn't resolve the issue.

Since then we've put some additional time and effort into the bleed process, varying the calliper and lever position to dislodge a few mystery air pockets. As a result, they are now far more consistent. While it's easy to get the XT brakes 90% right, that final few percent needed to achieve a perfect bleed is much harder to obtain.

The SRAM bleed process is a bit more involved than the 'quick Shimano onceover' that most people will do. You're also dealing with paint-eating DOT fluid rather than mineral oil. Even so, the SRAM bleed isn't that scary; just take your time when working through the steps and in most cases the Guide brakes will be right after a single bleed. There was one occasion where we must have missed a bit of air and had some lever inconsistency but another bleed had it sorted. Overall the lever feel was more consistent with the SRAM brakes.

RSC Brakes

FEEL & PERFORMANCE

Both systems offer excellent power and performance—one finger braking is effortless. You may think the two-piston XT brake would lack bite when compared to its four piston counterpart but that's not the case. Shimano's 'Servo-Wave' lever mechanism seems compensate, providing more than sufficient leverage and power.

As you only need one finger to stop, they work best when lever-end lines up with your index finger. This position is easily achieved with the compact Shimano brake lever but the SRAM lever clamp needs to sit almost 25mm inboard from the grip to achieve the same position in relation to your index finger. None of this affects the performance but the Shimano system looks tidier as a result.

The Shimano brakes are ultra powerful as soon as the lever meets the contact point, almost to the point of being 'grabby'. The SRAM lever has a slightly softer initial feel that doesn't snatch your attention in the same manner. Pull a little harder however and the power comes on strong.

The Guide brakes feed the power on steadily, making it easier to hold that fine edge between rolling and locking. That's not to say you can't modulate the power with the XT stoppers. You certainly can but you need to get used to the lever feel and have a lighter touch at the bite point. In the end both work brilliantly and you'll grow accustomed to whichever system that you choose.

RELIABILITY

Beyond the bleed issues that we hit with the XT brakes, we also encountered one other anomaly. There was a one-month period where the XT brakes didn't see any use. Upon returning to the Shimano setup, the power had dropped right off and the brakes were noisy. With some use the rear brake came good again but the front did not. A front pad swap sorted it out but the issue was puzzling.

If this were a one-off occurrence, I'd assume that some oil must have been splashed onto the pads or rotors, but I've encountered the same thing previously with the older generation XTR brakes and I know of other Shimano users who've had their pads mysteriously 'go off' in the same situation. Maybe a tiny amount of oil seeps past the ceramic pistons when the bike is left sitting or perhaps the pad compound glazes over when they're not being used for an extended period.

Aside from the occasional tweak of the calliper position to remove some disc rub, the Guide brakes have presented next to no problems. Beyond cutting the hoses to length and bleeding, the Guides have been absolutely trouble-free. The new Centerline rotors are nice and quiet too. Sure they make some noise in the wet but so do the Shimano brakes.

SUMMING UP

There's no doubt that SRAM has well and truly caught up in the braking department. We've now spent enough time on the Guide RSC brakes to say with some confidence that they're one of the best brakes on the market; reliable, consistent, adjustable and very powerful with fantastic modulation. Shimano continues to make brilliant brakes and the new generation BR-M8000 is a very slick product. They've got masses of power and the excellent pad retraction makes them easy to adjust for drag-free running. With the new XTR-like slim line lever design, they really look the goods too and will complement any high-end bike build. MBA

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Monza Imports www.sram.com

Guide Ultimate

The Ultimate is based directly on the Guide RSC but features a number of updates. First up it's lighter and more expensive; at $400 per end it's almost twice the price of the regular RSC model. The weight drops to 245g for a front brake without the rotor; a 15g saving. This increases to a 25g weight loss if you also employ a new Centerline X rotor. This won't justify the cost difference but there's more to the Ultimate than its carbon lever blade and titanium hardware.

Functionally the lever is identical to the Guide RSC; all the action happens down at the calliper end. While it still uses a four-pot layout, the forged alloy pistons feature a new low friction anodised coating and seals that aim to improve the pad roll back. There's also a phenolic insulator that's meant to reduce heat transfer to the brake fluid, and a larger opening to increase airflow around the pad. Finally, the fluid path and bleed port have been changed to make the bleed process easier.

While the bleed steps remain the same, the new snap-in fitting at the calliper end makes the process a little cleaner and easier. More importantly, it was faster and easier to get a really good bleed, making the brake lever feel super sharp and responsive.

The Ultimate does have a different feel at the lever when compared to the regular Guide. It seems snappier and smoother; perhaps due to the new slippery coating on the pistons or maybe they feel great as it's easier to get a perfect bleed (most likely a bit of both).

Probably the biggest improvement is with the pad roll back. There's more daylight between the pads and the rotors; not as much as on the Shimano XT callipers but there's noticeably more clearance than with the Guide RSC. This makes the initial set up and adjustment much easier.

After using the Ultimates in a few gravity enduro events as well as down the longest and steepest descents in my area, I with can confirm that they offer the same top-notch modulation and outright power as the regular Guide but with an even more consistent feel at the lever. No matter how hot you run them, the lever just feels the same; nice and solid with a consistent bite point.



While the Ultimate price is prohibitive, they do offer some noticeable advantages over already excellent Guide RSC brakes. Hopefully SRAM will eventually offer a 'not so ultimate' version that delivers the new calliper design minus the titanium and carbon; it'd be awesome to see the same performance at a more attainable price point.



Article & Photography by John Hardwick

Bouwmeester Wheels

A completely new take on carbon rim design from an Aussie manufacturer.



Carbon MTB rims aren't just for weight obsessed XC racers. The use of carbon has allowed manufacturers to create wider trail oriented rims without incurring a huge weight penalty. Wide rims support the tyre better, allowing the use of very low air pressures without tyre squirm and burping issues. With a 31.5mm inner width, the Tammar rim is suitably wide, but there's a lot more going on with this rim design.

Most carbon rims mimic modern alloy rim with a box shaped cross-section. In this case, Bouwmeester decided that a single-walled design was more appropriate for composite construction and the Tammar looks more like an old steel BMX rim.

Wide box section rims promote stiffness – something that's generally seen as a good thing – but ultimately this rigidity can make the structure more prone to catastrophic failure if you hit something hard enough. Box section rims also have thin walls, which can be more vulnerable to impact damage. The material in the Tammar is much thicker, which adds impact resistance and also places more carbon around the spoke holes.



Along with the unique cross-section, the carbon layup is said to produce an 'optimum balance of torsional stiffness'. I've built and ridden plenty of carbon wheels – from big-dollar Enves to unbranded Chinese rims – and all have been exceptionally stiff. I expected the Tammar to be similar, but this certainly wasn't the case.

GIVE & TAKE

Before mounting up the Bouwmeester wheels, I did a quick side-by-side check with my own wide carbon wheels. Laying each wheel on its side and pushing down on the rim revealed a noticeable amount of lateral flex—my own wheels felt unbelievably stiff by comparison. Even pushing down firmly on one side of the rim revealed a visible amount of give in the rim cross section. Initially I found it disconcerting; surely stiffer wheels are better, right? Well that's what most of the marketing tells us.

I mounted them to my 160mm travel trail/enduro bike and the flex that I noticed when setting up the wheels never really reared its head on the trail. I'd expected them to feel imprecise or introduce some odd handling characteristics but they didn't. One thing I did pick up on was the smoother ride. I was surprised that I could feel this when the bike already had 160mm of vertical 'give'. It seems the localised rim flex takes the edge off the bumps that you don't hit square on; the ones that usually throw you off-line when barrelling through a rock littered trail. The ride also seems 'quieter' than with large box section carbon rims; it's as if they cut out some of the vibration and background noise and allow you to focus better on your line selection and the bigger obstacles.

No product is perfect of course and the Tammar rims have their own set of quirks. First up they are pricy; at $2,999 with DT 240 hubs they cost less than Enve wheels but not by much. At 1,839g for the pair (including tubeless tape) they are around 200g heavier than most other high-end wide carbon all-mountain wheels.

We had to true them once as they'd gone out by about 3mm. Land sideways from a jump and the lateral deflection within the rim transfers more load through to the spokes. As a result they may need more regular attention than wheels that use stiffer rims. At least they were very easy to work on, with 32 DT Competition spokes per wheel.

The freehub runs an 18-point DT Star Ratchet mechanism. We feel the 36-point ratchet wouldW have been more appropriate, giving quicker pedalling response in technical terrain. If this concerns you, Bouwmeester also offers their wheels built with Chis King hubs, and they have 72 engagement points per revolution (but they will make the wheels heavier again).

Finally, the supplied rim tape is thin and quite flimsy. Replacing the tape is fiddly too; a rubber bung covers the head of each spoke nipple, and these need to be held in place while you wrap the tape around—it's almost a two person job. Choosing a more durable tape would save hassles all round; even some duct tape from the local hardware store would have done a better job.

None of these points are deal breakers; 36-point DT Star Ratchets are readily available and the tape issue isn't hard to solve, but we can't help feeling that these details should've been sorted from the outset on a $2,999 wheel set. Glitches aside, the Bouwmeester wheels are unique, truly Aussie made and offer a noticeable improvement in ride quality that seemed to enhance control when ploughing through the rocks. MBA

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Article & Photography by John Hardwick



Raceface NEXT 35 Bars

Is bigger better? We check out the latest 35mm diameter handlebars from Raceface to see what this new standard is all about.

In recent years, brands such as RaceFace, Easton, Chromag, Kore, Syncros and Fouriers have adopted a 35mm diameter clamping area on some their handlebars. Most brands have stuck with 31.8mm but even this is an upsize from the 25.4mm diameter bars that everyone used in the '90s. So where's it going; are we all going to be running 35mm handlebars in a year or two? We've been testing a 35mm bar and stem combo from RaceFace to see if we can pick up on any advantages.

This trend towards fatter bars has paralleled the increases in width. When I started mountain biking in the '80s, handlebars were 25.4mm in diameter and around 560mm wide (although the 'cool kids' would cut them down to 500 or 540mm). In the last couple of years many trail riders have moved on to bars in the 720-780mm range. With such a radical increase in width, it makes sense that handlebars should also grow in girth to cope with the added leverage. But is the more common 31.8mm diameter enough and do we need to jump up to 35mm? After all, most DH bars are 800mm wide and used a regular 31.8mm clamp diameter, and it's not like bar-snapping is a common occurrence in gravity racing these days.

RaceFace states that the 35mm centre section allowed them to go wider without sacrificing strength or stiffness. This seems to ring true if you look at the specs; their 35mm NEXT riser bar is only 5g heavier than the 31.8mm version, yet it's 35mm wider (760mm versus 725mm for the skinnier one). Compared to other handlebars, the NEXT 35 certainly offers an impressive width-to-weight ratio. Most full-width carbon handlebars are in the 200-240g range, so a sub-200g offering is pretty impressive.

For this review I swapped from a 31.8mm carbon bar that weighed 220g and was 740mm wide. Moving to a wider bar that was actually lighter than my old one raised a few concerns initially, so I was quietly relieved when the review sample came in at 195g. This is still lighter than the majority of comparably wide 31.8mm handlebars but the extra 15g gave me some peace of mind.

RaceFace offers the NEXT 35 bar in two rise options (10 or 20mm) and if the 760mm width isn't enough, you can step up to the SixC which comes in at 800mm wide (210g claimed). Both of these options are listed as having an eight-degree rearward and five-degree rearward sweep. I've encountered bars that are 'straighter' as well as some that sweep back more but overall the NEXT bars felt natural and 'right'.

They come in a nice matte black finish with markings at the ends that serve as a guide if you want to cut them down (they can be trimmed back to 710mm if you prefer). Ours came with plain grey logos but they're also offered in blue, red, green and turquoise.

Wide yet Light

RaceFace makes the point that the 35mm bars aren't designed to be stiffer. The fatter diameter simply allows them to retain similar levels of stiffness whilst keeping the weight down for a handlebar of this width. In use they didn't feel different to other high-end carbon handlebars. They seemed sufficiently stiff with an element of give that helps to damp trail vibrations a bit better than most aluminium offerings.

If you're currently on a 31.8mm setup and like the beefy looks of the 35mm bars, you'll also need to purchase a new stem. We complemented our bars with a RaceFace Turbine 35 stem; they're offered in 50, 60, 70, 80 and 90mm lengths with a six-degree rise (or drop). Our 60mm long sample came in at 150g, which is bang on the claimed weight.

The NEXT 35 bars may have saved around 30g when compared to my previous handlebar but the Turbine 35 stem added 20g, so between the two the savings are minimal. That said, the NEXT 35 bars were 20mm wider whilst retaining a solid and bombproof feel. Visually I also liked the proportions of the 35mm setup—they just look 'right' when combined with a wider bar. The only obvious downside is that your existing lights and other handlebar mounted accessories mightn't fit.

Selling for around $200, the pricing on the NEXT 35 bar is in line with most other high-end carbon handlebars and the Turbine stem is in the vicinity of $129. While it's not an out and out revolutionary change when compared with a 31.8 system, these bars do offer an impressive combination of width, weight and strength that left me with no complaints. MBA

Groupe Sportif (03) 88781000
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The nicely machined Turbine 35 stem complements the NEXT bars.


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Article by Steve Hinchliffe | Photography by John Hardwick

Gloryfy G4 Prescription Sunglasses



A largely unknown brand in Australia, the Gloryfy range offers a host of unique features.

Gloryfy doesn't hold back with their claims, openly stating they are the absolute best available in terms of construction quality and optical clarity. Both their frame material and lens material are patented and said to be virtually unbreakable. The lenses are supposed to be much clearer than the polycarbonate ones used by most brands (they are certified to the highest optical clarity possible).

There's a broad range of frame styles and lens tints available, and all manufacturing including prescription lenses, takes place in-house in Austria. They also offer prescription lenses in the majority of their range, and as anyone who wears specs can tell you, finding a good pair of cycling glasses that can take your script is like finding a chicken with lips.

The issue with mixing optical prescriptions and sports glasses is generally the curvature. Once you start to radically curve the frame it becomes increasingly difficult to avoid optical distortion while making the prescription lenses fit the frame. Despite having an extremely high base curve of nine (most sports glasses are base seven or eight), Gloryfy offers prescription options throughout their range—it's available on all bar the rimless styles in fact. They're not restricted to modest prescriptions either; scripts up to +/- 6.5 can be fitted into their frames, which means all but the legally blind should be sorted.

A set of non-prescription Gloryfys will set you back about $239, and if you need prescription lenses you can add from $500 (single vision) to $620 (multifocals) to the base price. While it's not exactly cheap, there are plenty of high-quality sunglasses retailing around that price, and a high-curve polycarbonate prescription lens in will be similarly priced from most brands—if you can get one to fit that is. Turnaround time is only about two to three weeks, which is pretty impressive given the shipping times from Europe; I've waited longer for glasses to come from Sydney.



For my review set, I chose the G4 model; a classic half-rim style with a grey photochromic 'Transformer' lens. Depending on the ambient UV light, it can change tint from 12% to 45% light transmission; enough variation to pretty much cover dawn to dusk. You can, of course, get fixed tint lenses as well if you prefer.

I'd normally choose a high-contrast tint like orange or yellow, however Gloryfy claim that their unique tinting process allows all lens colours to enhance contrast. I certainly found this to be the case. Instead of just making everything darker, I could definitely see outlines and changes to the trail surface much more clearly than with other prescription lenses I've used. This reduction in overall light with an increase in contrast definitely makes things easier and more 'relaxing' on your eyes.

Believably Bulletproof

As for the claims of being unbreakable, the frames themselves can be twisted and bent in pretty crazy ways, and then they simply spring back to their original shape. According to the importer, they've only had to replace one frame; the owner was so impressed with how tough his glasses were that he repeatedly drove his car over them to impress his friends, and eventually they gave in. Suffice to say that in normal use it seems unlikely frames could be damaged.

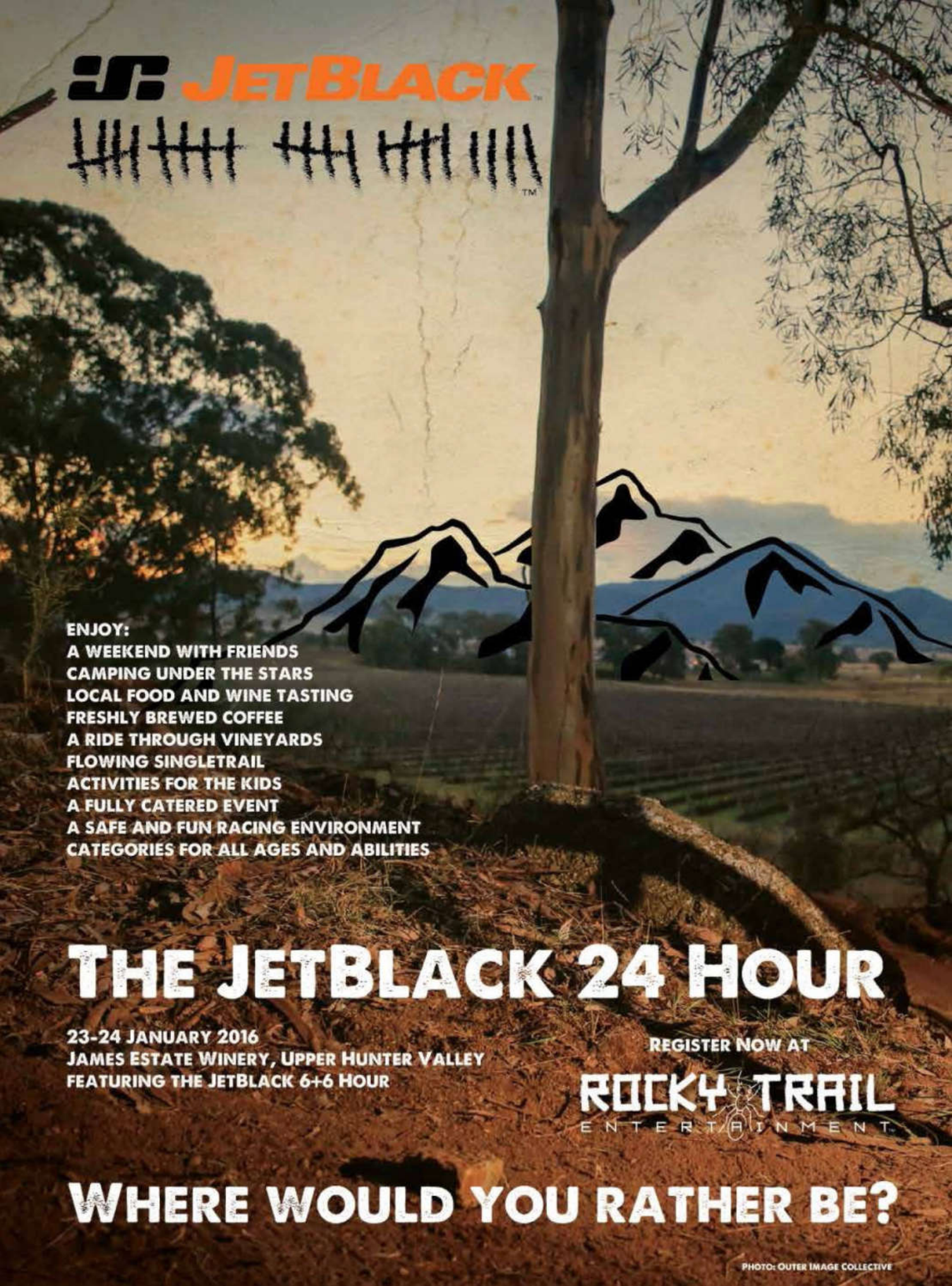
The lenses themselves are also tested to withstand small calibre bullets, so not only will you be safe from rogue snipers on the trail, but stones and sticks aren't going to be a problem. In the interests of real-world testing I've wiped mud off them with my jersey on numerous occasions, and to date they've held up extremely well with no visible scratches. I'm sure if you dragged the lenses over a sharp rock you'd mark them, but I'd say toughness is certainly at the very upper end of the spectrum.

That brings us to the issue of fit and it's a tricky one as everyone's face is different. I have a high and broad nose bridge which pushes the glasses up a little from their normal position.

That's not an issue with a cross-country lid but the additional coverage of a modern trail helmet saw the glasses and helmet vying for the same real estate. This resulted in the glasses being pushed down my nose a little and needing to be pushed back up every few minutes—pretty annoying. The G4 model comes with removable, grippy rubber nose pads which might have helped on someone else, however with my particular face shape they would have only pushed the glasses further up and exacerbated the problem. As with anything that goes on your body, the mantra here is try before you buy.

Fit issues notwithstanding, I can safely say that I've been well impressed by the Gloryfy glasses. The construction and optical quality of the Gloryfy product is as good as anything I've seen and better than most, and I've spent several years as a sales rep dealing specifically with sports sunglasses. Whether you need a prescription or not, they are definitely worth considering for your next cycling glasses. MBA

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Article & Photography by John Hardwick

OneUp 45 Tooth Cog



Wide range cassettes are all the rage but this aftermarket option for Shimano 11-speed takes it to a whole new level.

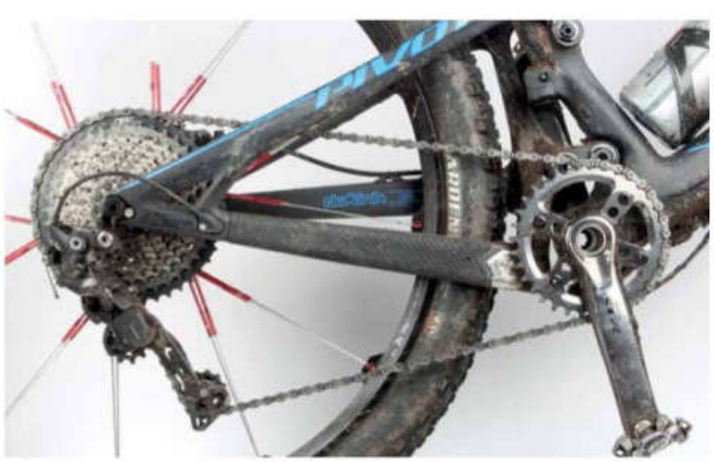
For most the initial reaction to the idea of a 45 tooth cog for the rear cassette is one of mocking disbelief. Sure, wide range rear cassettes make single ring drivetrains viable for a broader range of riders and trails, but why would anyone ever need a cog so big? 'If you need a gear that low then get yourself a double or a triple chainring', is one common retort.

Well the appeal of a single chainring is strong; I for one love having fewer gear cables and some extra free space for a dropper post remote. With no front derailleur to clatter against, they are also comparatively quiet. Locally I have some long and steep hills to contend with, so a wide range single ring drivetrain certainly appeals to me—the wider the better as far as I'm concerned as I always prefer to pedal rather than push.

With these thoughts in mind, I was keen to try this new 45 tooth cog from US manufacturer OneUp. It may seem crazy to have a cassette that's larger than the big ring on a triple crankset but if it adds range and flexibility to a one-by drivetrain then why not?

It's only available directly from the manufacturer and sells for $90. This kit is made specifically for Shimano 11-speed systems—either XT or XTR. It is designed to run in conjunction with their 11-40 cassette (not the 11-42 option). The kit includes the massive machined 7075 alloy cog as well as a supplementary 18-tooth steel cog that slips in mid-way down the cog stack.

The 45 cog goes onto the hub first, followed by the regular Shimano cassette. Three quarters of the way down, you leave out the stock 17 and 19 cogs, replacing them with the single 18 tooth OneUp cog. You still finish up with 11 gears but have a wider 11-45 spread. As you can see on the gear charts, this provides a 409% variation in ratios; it's a good deal wider than the 363% range offered by the 11-40 cassette and even Shimano's 11-42 option only provides a 381% range. For those who think the 45 cog is taking thinks too far, the total gear range is actually narrower than what you get from a SRAM 1x11 system; their 10-42 cassette offers a 420% gear range.



Weight wise the OneUp conversion added 57g to our 11-speed XT donor cassette, taking it from 412g up to 469g. It's a relatively minimal increase if you're already a Shimano user, although it's quite hefty when compared to SRAM's expensive one-piece machined XX1 and XO1 cassettes. They're around the 265g mark but require a dedicated XD Driver freehub body. This 11-45 setup still offers an impressive gear spread whilst fitting on any regular 10-speed rear hub.

Range extending cogs are nothing new for 10-speed systems; we've tried a multitude of them on both Shimano and SRAM drivetrains. Plenty of people use them and are happy with the result but more often than not, mounting a 40 or 42 tooth cog to a 10-speed system compromises the shift quality. If you're fussy about the accuracy of your gear shifting, these add-on cogs probably aren't for you.

SURPRISE SHIFTING

We're happy to report that we got a far better result when adding the 45 cog to our 1X11 Shimano XT drivetrain. Once fitted we made a minor adjustment to the B-tension screw, tweaked the cable tension a bit and we were off. Occasionally there was some slight hesitation when shifting from the 15 cog up to the OneUp 18 cog but it really wasn't bad. The new generation Shimano 11-speed derailleur was more than up to the task when it came to shifting into the 45 cog.

Having such a big cog on the back allowed us to run a bigger chainring without compromising the climbing gears. Where I'd normally want a 30-tooth chainring with a 42 cog on the back, I was now able to get the same low gear by using a 34-tooth chainring, and this in turn provides better top-end gearing. Of course you can retain a smaller chainring if you wish and proceed to climb the nearest tree!

Using the 18 cog in lieu of the stock 17 and 19 keeps the jumps between gears relatively normal but there's still a substantial gap is between the 15 and 18 cogs; this produces a 20% jump in the gear ratio. The biggest variation on a regular Shimano 11-40 cassette is 18%. OneUp's marketing material promotes this bigger gap as being beneficial, saying it splits the cassette into distinct climbing and descending zones. I think it really depends on what you're doing at the time. It can be handy to skip to a much bigger gear just as you begin a descent but the sizable jump can also be annoying on flatter terrain where you may have one gear that's too hard and the next cog being too easy. To pitch this as a 'feature' is marketing at its best!

Overall I felt that the compromises were pretty minimal with this conversion. If you're after a wider gear spread out of your new 1X11 Shimano drivetrain, the OneUp 45 cog certainly delivers, and it does so whilst retaining 90% of the stock gearshift quality. Combine it with a bigger chainring and you get more top-end speed without cutting back on your climbing gears. MBA

www.oneupcomponents.com

Wide Range Gear Ratios

OneUp XT 11-45		Shimano XT 11-42		SRAM XX1 10-42	
34		34		30	
11	85.4	11	85.4	10	82.9
18.20%		18.20%		20.00%	
13	72.3	13	72.3	12	69.1
15.40%		15.40%		16.70%	
15	62.6	15	62.6	14	59.2
20.00%		13.30%		14.30%	
18	52.2	17	55.3	16	51.8
16.70%		11.80%		12.50%	
21	44.7	19	49.4	18	46.1
14.30%		10.50%		16.70%	
24	39.1	21	44.7	21	39.5
12.50%		14.30%		14.30%	
27	34.8	24	39.1	24	34.5
14.80%		16.70%		16.70%	
31	30.3	28	33.6	28	29.6
12.90%		14.30%		14.30%	
35	26.8	32	29.4	32	25.9
14.30%		15.60%		12.50%	
40	23.5	37	25.4	36	23
12.50%		13.50%		16.70%	
45	20.9	42	22.4	42	19.7
Total range - 409%		Total range - 381%		Total range - 420%	

Note: *The ratios are expressed in 'gear inches' so you can compare the range offered by different cassettes. We used a 34T chainring with the OneUp and the stock Shimano setups but a 30T with the SRAM cassette, as both provide a similar top gear.*

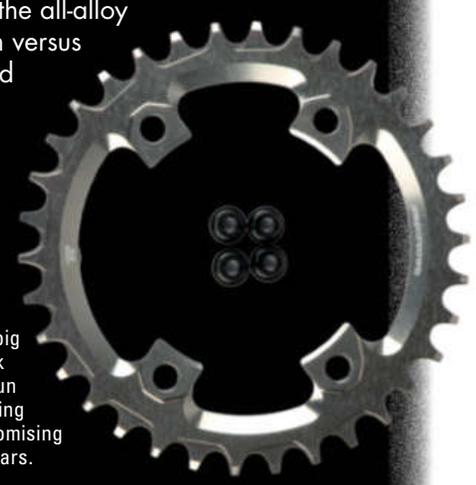
OneUp M9000 Chainring

Unless you're chasing super low gearing, the benefits of the 45 cog are best realised by fitting a bigger chainring up front. Shimano offers chainrings up to 34T in XT and 36 for XTR cranks but OneUp also has aftermarket rings that will fit the new XT and XTR drivetrains. Selling for $90, the OneUp rings are made from 7075-T6 alloy, use a wide narrow tooth profile and come in 30, 32 and 34 tooth sizes.

We've found the chain retention to be very good with the stock Shimano 1x11 drivetrain. Thankfully the aftermarket ring didn't mess this up and we didn't lose the chain once.

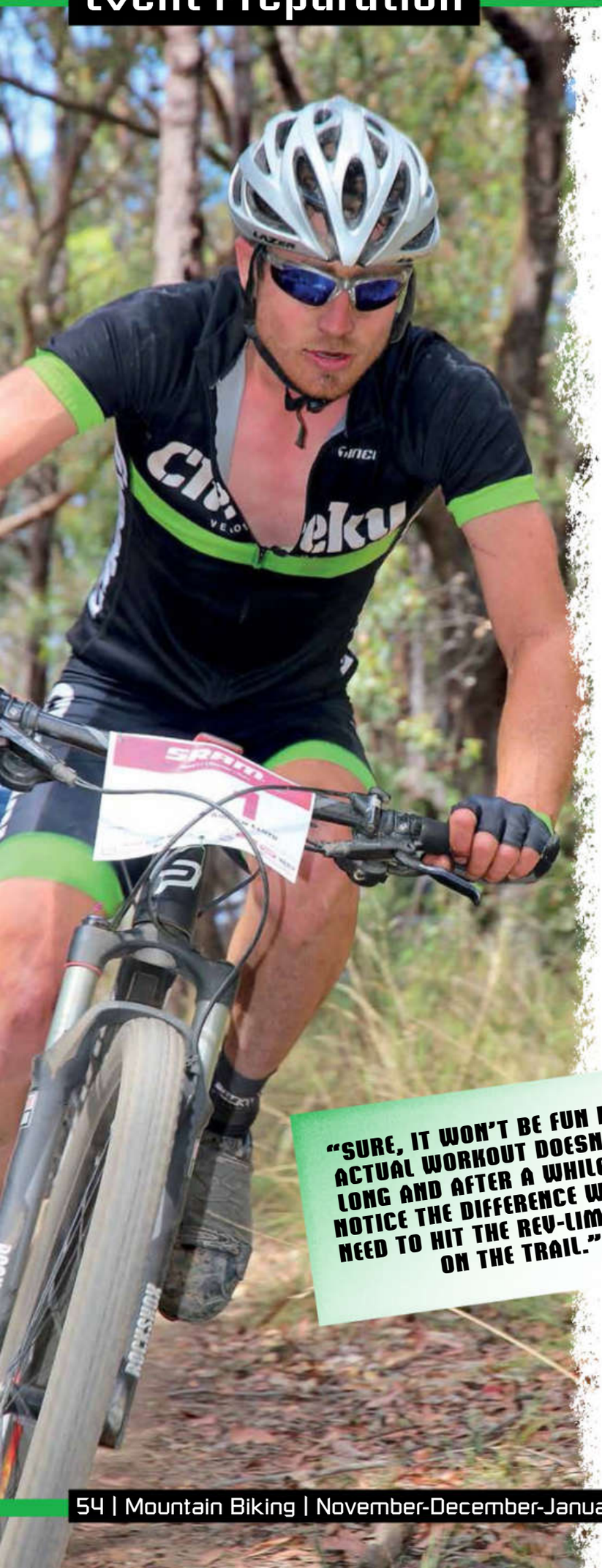
While we only used this chainring for two months, we'd expect the alloy teeth to wear faster than the steel or titanium teeth found on the original Shimano items. On the positive side, the OneUp ring sits a little further inboard a, creating a 49mm chainline. The stock Shimano chainring produces a 50.4mm chainline and in our review (MBA Aug/Sept/Oct 15) we found this to be excessive; it made the chain derail off the top of the cassette if you backpedalled whilst in the lowest gear. This was far less likely with the OneUp chainring fitted and it pretty much fixed the problem.

Aside from the improved chainline, the OneUp chainrings also save around 35g in weight when compared to the original setup. With XTR the weight is saved by eliminating the bulky chainring nuts, as the bolts thread directly into the chainring. On XT the weight savings come from the all-alloy construction versus the steel and composite materials used in the stock ring.



Having such a big cog on the back allowed us to run a bigger chainring without compromising the climbing gears.

Article by Angus Burrell | Photograph by John Hardwick



Go for Broke!

Angus Burrell looks at the demands of sprint distance mountain bike events and how to train for them.

Longer MTB events like marathons and 8-12 hour racing remain popular but not everyone has the time or inclination to go for the long haul. Thankfully there are an increasing number of shorter alternatives that can give you that competitive fix, without the same need for hours and hours of chamois time.

You could be a eyeing off a club level off-road criterium, an XC eliminator race, getting into cyclocross or the new wave of gravity enduro, whatever the case they are more sprint oriented disciplines that are won and lost in relatively short but intense bouts of flat-out pedalling. They are the lung busting, leg burning events that are over before you know it but leave you with a reminder of your effort for a few hours or even days after.

> "SURE, IT WON'T BE FUN BUT THE ACTUAL WORKOUT DOESN'T TAKE LONG AND AFTER A WHILE YOU'LL NOTICE THE DIFFERENCE WHEN YOU NEED TO HIT THE REV-LIMITER OUT ON THE TRAIL."

Young whippersnappers with seemingly endless levels of energy love these races but as we age, these efforts become more and more uncomfortable. While they are always going to hurt, there is plenty of scope to improve your performance—no matter how old or young you are.

So how do you train for these 'sprint disciplines' of mountain biking?

If you're really taking it seriously, the training techniques can get very complex and it'd be wise to seek the advice of a coach or sign up for an on-line training program such as Today's Plan (www.todaysplan.com.au). With this article the aim is to keep it as simple as possible to get you on the right path to begin with.

SUFFER FEST

To improve your ability to suffer and sprint over these short distances, you need to spend time training at a high intensity—put simply; it's gunna hurt!

Don't be put off however, as a bit of dedication can reap real rewards. Best of all the gains can be extracted from some relatively short but targeted sessions on the bike, making it ideal for anyone who's constantly juggling work, family and social commitments.

Obviously gravity enduro is very different to a cyclocross race or an off-road crit, but they all involve performing under a consistently high workload with a number of maximal efforts thrown in and little or no recovery. As a result, each of these varied

Tempo Threshold Workout

	Duration	Description	Intensity
Warm up	10 minutes	Gradually build up the intensity so after 10 minutes you are ready to go	50-85% FTP 50-85% THR 5-8 RPE
Steady Pace	15 minutes	Endurance level pedalling - able to hold a conversation	65-75% FTP 75% THR 6 RPE
Tempo/ Threshold Efforts	15 minutes	Hold a high tempo pace for 4 minutes and then put in 100% effort for 1 minute before returning to the high tempo again. Repeat three times over the 15 minute period	80-120% FTP 80-105% THR 8-10 RPE
Steady Pace	15 minutes	Endurance level pedalling - able to hold a conversation	65-75% FTP 75% THR 6 RPE
Cool down	10 minutes	Gradually reduce the intensity so after 10 minutes you are relaxed	70-50% FTP 85-50% THR 7-5 RPE

Notes:
* FTP = Functional Threshold Power, this is measured using a power meter
* THR = Threshold Heart rate - measured using a heart rate monitor
* RPE = Rate of Perceived Exertion - a self-assigned score from 0-10 (10 being maximum intensity)

disciplines will benefit from a general tempo/threshold session (see the 'Tempo/ Threshold Workout' table). Integrating one or two of these workouts into your weekly routine will retune your body to perform better when the intensity goes through the roof.

While a power meter or heart rate monitor will be extremely helpful, they are not essential for this type of session. You can also go by the 'rate of perceived exertion' scale or 'RPE'. This is based on a self-assigned score from 0-10 where zero is doing nothing at all and 10 is an absolutely maximal effort (see RPE Guide on the right).

The tempo/threshold workout forms a good starting point for someone with reasonable base fitness who hasn't undertaken regular structured intensity training before. As you progress, you'll be able to raise the bar a little. Go from one session a week to two, then increase the number of efforts per session. To begin with you'll only be putting in three five-minute tempo/threshold efforts within a 15 minute period, but this can be increased to six efforts in 30 minutes as your capacity improves.

While it may be possible to do this type of session on the trail or whilst commuting, it'll be far easier to do it on a stationary trainer and well away from distractions. Sure, it won't be fun but the actual workout doesn't take long and after a while you'll notice the difference when you need to hit the rev-limiter out on the trail.

RPE Guide

Rate of Perceived Exertion	
0	Nothing at all
1	Very light
2	Light
3	Moderate
4	Somewhat heavy
5	Heavy
6	
7	Very heavy
8	
9	Very, very heavy
10	Maximal Effort

Getting Specific

Using our example of a tempo/threshold workout will lead to a general improvement for most high intensity MTB events but it's certainly possible to take it to a higher level if you employ the services of a coach.

Coaches are guided by principles of exercise, one of these being 'specificity'. We'll analyse your target event. It needs to be broken it down into the various elements so we can develop sessions to target each specific aspect.

To get the most from your training we'll also look at the unique factors of the discipline you are planning to race. These factors could include the terrain, duration, technical difficulty of the course and so on.

Take a MTB criterium for example; it will involve short but very intense efforts like sprinting out of corners or up pinch climbs, as well as slightly longer but still intense level of effort once you're up to speed.

Your key event may involve ten laps of a 1km course with four corners per lap that involve hard accelerations—that means 40 full gas sprints in the race!

Here's an example of how we'd tailor a session to suit these specific requirements:

	Duration	Description	Intensity
Warm up	10 minutes	Gradually build up the intensity so after 10 minutes you are ready to go	50-85% FTP 50-85% THR 5-8 RPE
Sprint set	4 x 3 minutes	10 seconds Maximal sprint into 20 seconds of tempo riding (see intensity scale) continue repeating this through the 3 minute block. Give yourself 5 minutes of active recovery in between sets	80-95% FTP 80-95% THR 7-9 RPE
Cool down	10 minutes	Gradually reduce the intensity so after 10 minutes you are relaxed	70-50% FTP 85-50% THR 7-5 RPE

Notes:
* Unless using a power meter, you won't notice a big change in your intensity scale during the 10 second maximal sprints. Both RPE & HR will lag in their response so just give it everything you've got regardless.
* 4 sets brings you to a total of 24 maximal sprints - it will hurt! As you start to find this session more comfortable you can increase the number of sets to match the requirements of your target event. Start off realistic!
* You could use a small pinch climb for the sprint and hit tempo once you crest the top

WEEKLY PLAN & PREPARATION

Teaching your body to suffer is the first step but how you structuring these sessions into your week is of equal importance. You need to start off at realistic level, both in terms of intensity and duration.

We see many self-coached riders become 'over trained' by replicating sessions they have seen online or have heard their mates are doing. Tracking the workload tends to be quite subjective and open to differing interpretation. This is where having your own coach and access to a power meter can really help, as it removes the guesswork.

If you're going it alone, it's best to err on the side of caution and incorporate more rest. Overdoing it and cooking your body with too much volume and intensity is no fun at all. Your performance will suffer and it will drain the enjoyment from the sport.

Before getting stuck into



any sort of intensity program, it's important to have a basic foundation to build upon. This foundation is developed through aerobic training and longer low-intensity endurance rides. They increase the number of mitochondria and capillaries in the body, allowing your muscles to handle the repeated high intensity workouts.

To begin with you could structure your week with one or two specific intensity sessions. Having two days of complete rest allows your body to recuperate and may help you fit in other life duties—like school drop-offs or a longer day at the office. Saturday could be an opportunity to do a longer ride for endurance and base fitness while Sunday may be a chance to get out with mates and brush up on your skills; the 'Weekly Plan' table is a good example to kick off with.

EASING OFF

To truly make the most of your training efforts at an event that you're targeting, you need to be fresh and fully recovered—it's commonly known as 'tapering'. By reducing training load we start to freshen up and find form, and that's when you'll be setting your PBs and getting results.

Aim to reduce your regular training load by 50-70% in the week before your race. Once again, using a power meter makes tracking this load reduction far more accurate than basing it on distance or duration alone. If you don't have access to a power meter, just follow the 50-70% rule and you'll have a solid starting point.

THE WHOLE PICTURE

Don't forget the plethora of other skills that you'll need. Whether its gravity enduro or cyclocross, skills tend to play an even bigger role than they do in longer marathon style events. Recovery or endurance rides can be a great opportunity to brush up on your descending or cornering technique.

Getting in the gym and developing upper body and core strength will do wonders for your ability when it comes to riding aggressively in shorter events. This is especially so for technically demanding courses with rock gardens, drops and jumps. Improve your core strength and you'll be smooth and more composed on the bike.

NUTRITION

Short distance events place high demands on the anaerobic energy system. This system relies on glycogen as the main fuel source and we get this from eating carbohydrates. During a race you will be delving into your carbohydrate stores and need to replenish them mid-ride once the event extends beyond 45minutes in length.

The amount of carbs you need differs depending on your weight and metabolic rate—some people just require more fuel. In general you'll need to consume between 60-90g of carbohydrate per hour.

Many people neglect the nutrition component during training, and this can come back to bite you on race day. In the same way your body adapts to training via strength and fitness increases, your metabolism needs to adapt to you stuffing energy bars, gels and drinks in. Use your nutrition products during training and you'll get a feel for your fuelling requirements and the type of food that works for you.

GEAR CHECK

Short and intense events can place more stress and greater demands on your equipment, and if something goes wrong with your bike, there's less chance of making a comeback when compared to a longer event. As a result your bike needs to be totally dialled and sorted. Just as you prepare your training program by analysing the physical demands of an event, you need to consider the technical demands and prepare your bike accordingly.

Is the track particularly rocky and fast? Better fit some wider tyres and maybe go with a slightly tougher casing too—it's better to add a few grams to avoid a DNF in the event that you've trained for. Consider the suspension setup, whether you'll be better off on a hardtail or dually, tyre pressures, cockpit setup, gear selection and so on. Change what you need to get your bike dialled but don't do it the night prior to the event. Make any changes well before the big day to ensure that everything is working as you hope.

With your bike dialled and body prepared you can be confident that you've done everything within your power to achieve a good result and do your best. This knowledge will help you to relax and keep the nerves at bay. All that remains is to get out there and give it your all! MBA

Weekly Training Plan

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Description	Rest day	Tempo / Threshold surge session	Recovery ride	Tempo / Threshold surge session	Rest day	Longer endurance ride with some short threshold efforts	Fun ride out on the trail, working on skill development
Duration		60 minutes	60 minutes	60 minutes		120 minutes	90 minutes

* Saturday could be alternated with a club race
* Duration/Intensity will progressively increase through the course of the program
* Notice there is quite a bit of rest!

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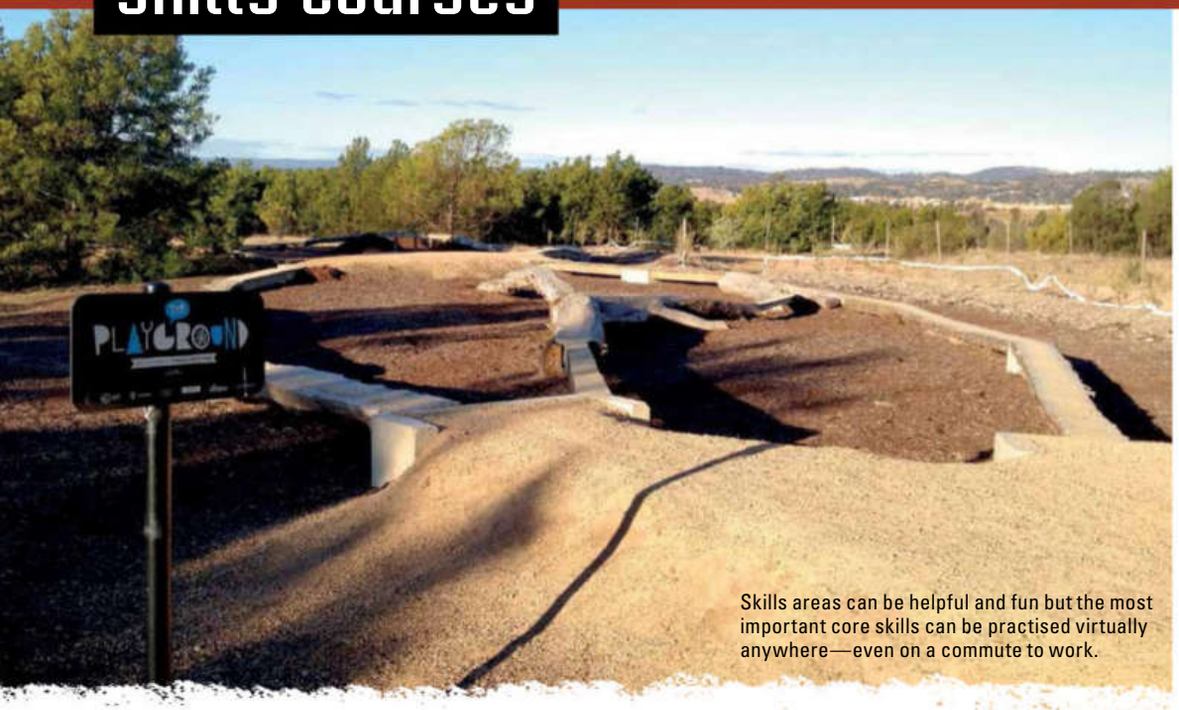
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Skills areas can be helpful and fun but the most important core skills can be practised virtually anywhere—even on a commute to work.

Back to School!

Truth be told, the vast majority of mountain bikers could really benefit from taking regular skills classes—Michael Hanslip explains.

It doesn't matter if you ride on gentle trails with your dog, tackle gnarly stuff with your mates or race with visions of glory; we all ride a mountain bike because it is fun. What isn't fun is finding yourself in a situation that you don't know how to handle. It could be a loose surface, a rutted trail, steep slopes or a rock garden that's your personal kryptonite. Possessing the skills to ride everywhere means never having to get off and walk as well as falling off a lot less often.

Competitive swimmers spend a lot of time in the pool under the watchful eye of their coach. Stroke production is constantly examined and corrected because it is so easy to develop bad habits. At the other end of the spectrum, non-swimmers enrol in swimming classes as no one wants to drown.

Why should it be any different for mountain biking? Like swimming it is a complicated and unnatural use of our bodies. And like swimming, whether you are a total novice or a highly competitive racer, you can always benefit from working with someone else to improve your skills. It's a great way to remove bad habits and lift you beyond the progression plateau that so many riders get stuck on. If you think your local trails have become boring, a skills class can also help you to look at your old trails in new ways and bring the fun back.

Going fast, clearing a jump to land perfectly, railing a berm and completing a race; these are all fun things. Going faster with control, clearing jumps with style, shredding a berm with authority and winning a race will be even more fun. Whatever your goals, these fun things all have one thing in common—skills, skills and more skills!

It seems some people are quite open to the idea of taking a class; kids, women and beginners especially. Guys who have been riding for a long time tend to be very reluctant to take a lesson. They are also the hardest to teach because they've been practising bad habits for so long.

Take it from me, a guy who has been riding a mountain bike a long time; lessons are terrific and bad habits are hard to unlearn. I took a teacher training class a few years ago and have been working with the same instructor annually since; it makes my riding more fun. It's far better to spend your money on instruction than on better suspension or some carbon bling—the former will definitely improve your riding experience regardless of the bike you ride.

WHOM TO SEE?

If I've convinced you that an instructor is in your future, the next job will be finding one. We've compiled a list of some Aussie based skills instructors as a starting point and also spoke to a number of them to get their thoughts on what makes a good teacher.

Pro skills instructors tend to be dedicated, enthusiastic individuals who have a real drive to help people ride better. Most of the instructors I spoke to were not full-time in that role, but given opportunity they would happily quit their day job. They get really pumped from helping their students achieve and all want to do the best job they can.

Collectively this group has a lot of experience (see Aussie Skills Courses). If you are looking for a good teacher, you either need to find someone who has a wealth of experience or you need a new teacher who was trained by someone with a lot of experience. While a formal teaching certification is not essential, it's certainly never a bad thing.

I have observed pro-XC racers teaching and it isn't always a pretty sight. Sure they can do all the moves – some of them with excellent precision and repeatability – but they can't always explain how they do it in a manner that helps you out. In other words, riding ability does

PMBIA

The Professional Mountain Bike Instructors Alliance or PMBIA was founded by Paul Howard. After more than a decade of teaching MTB skills, he sought to bring a higher level of professionalism to the field. PMBIA is important because it is the only teaching accreditation that's internationally recognised. It builds on 60 years of learning in ski instruction and was developed by a group of senior snow instructors who also ride. **www.zeptechniques.com**

not equal teaching prowess.

As a cycling coach and skills instructor, I am happy to report that Mountain Biking Australia (MTBA) has restructured their coaching curriculum to include skills instruction. It means eventually every local coach will also be a trained skills instructor.

WHAT'S IN A LESSON?

If you want to learn to do a specific move, then you can probably find someone who will teach you exactly that. The problem with learning a particular move is that it mightn't apply to anything else that you may want to do.

There's an important distinction between a learning a 'skill' and a 'manoeuvre'. A manoeuvre is usually something complex you do to impress your mates – like a wheelie or a whip – while skills are the little things that are fundamental to everything you do on a bike; thinks like pressure control or timing. If you learn to bunny-hop, it doesn't subsequently help to wheelie. That is why all good classes are structured around skills; they'll help you with the bigger picture, no matter what the trail throws at you.

Skills overlap a lot and you can't completely isolate one skill for development. It's also impossible to ride a bike without skills; braking and balance are both fundamental skills for example. You cannot work on braking without using balance. And while everyone can use their brakes to stop, not everyone uses their brakes to best effect.

Different people learn in different ways. Good lessons can take this into account to some extent. They'll provide a visual demonstration with an oral explanation as well as a chance to ask questions and ample opportunity to practise. Feedback from the instructor can be of great assistance too; you may feel like you are executing a skill as described but it isn't always the case. Your instructor can pinpoint any glitches and offer guidance to set you on the right path—something you can't hope to gain from reading a book or watching a video.

PRIVATE VS GROUP

With one-on-one tuition you get the undivided attention of the instructor and you have much more scheduling freedom. It can also offer greater freedom if there's a particular aspect of your skillset that needs extra attention. The advantage of group lessons is being able to see other people attempt the same things; observing their successes and failures can help you to 'get it'.

Some instructors run weekly classes that will only suit locals, but most also organise weekend 'camps' at a good riding destination. So regardless of where you live, the opportunity is there to improve your riding skills. A few classes can take your riding to places it has never been before, both literally and figuratively. MBA

Aussie Skills Courses

MTB SKILLS

Norm Douglas has been teaching skills in Victoria for the past decade. Like many instructors, Norm began teaching family, then friends and friends-of-friends before he started with the general public. Norm's most successful student is his wife, Jess, who put her skills to good use by winning a number of Solo World 24 Hour titles. Together the Douglas duo have developed a teaching system that has trained some 150 teachers and 4,000 students around Australia and Singapore. **www.mtbskills.com.au**

DYNAMIC MOTIVATION

After several years of working with Canberra junior riders, Mic Longhurst decided to 'live the dream' by starting his own MTB skills teaching business. Mic is a student of Paul Howard, and the only PMBIA teacher/trainer in Asia-Pacific. He has taught around 1,000 kids and another 1,000 adults. **www.dynamicmotivation.com.au**

GRAVITY OZ

Run by Shannon Rademaker, Gravity Oz is based at Mt Buller. He has been teaching and guiding for nearly 15 years and helped over 1,000 riders in this time. A few years ago Shannon got his PMBIA certification. He feels the additional training has helped him better convey his ideas to the students. **www.gravityoz.com.au**

ESCAPEGOAT ADVENTURES

Ian Fehler started his MTB career 10 years ago working as a guide in the French Alps. During that time got his Scottish Mountain Bike Leaders qualification (SMBLA) through British Cycling, which was the most recognised instructors qualification in Europe at the time. On his return to Australia he set up Escapegoat Adventures, and has been running MTB skills training courses in Adelaide since 2008. **www.escapegoat.com.au**

SYDNEY BIKE SKILLS

This Sydney based company holds numerous group skills days and also offers one-on-one tuition. They employ a range of different instructors, some of whom have PMBI training. They even run women's skills days as well as combined yoga and MTB skills weekends. **www.sydneybikeskills.com.au**

WILD HORIZONS

In addition to running various MTB events including the Highland Fling marathon, Wild Horizons also holds skills days that cater to a wide range of riders; from beginner through to advanced levels as well as women's skills days. Based in Bundanoon, they employ the services of a number of experienced skills coaches. **www.wildhorizons.com.au**



CHOCOLATE FOOT

Fiona Dick and Joe Ward host group skills clinics as well as one-on-one private tuition. They also partner with MTB clubs and have a proven background in supporting women offering female-only clinics plus a Women's Amateur MTB Development team. **www.chocolatefoot.com.au**

MICHAEL HANSLIP

Regular contributor to Mountain Biking Australia and the author of this article is also a PMBIA accredited skills coach. Michael is Canberra based and has taught around 300 riders in the last 10 years. **www.michaelhanslip.com**

SPORTS CAMPS AUSTRALIA

Catering specifically to school groups and kids, Sports Camps Australia holds full day MTB camps as well as family weekend clinics. **www.sportscampsaustralia.com.au**

Note: *This isn't intended as a comprehensive list of everybody that does skills coaching within Australia.*

Article & Photography by Emily Miazga

Em's Carbo Loading Meal



Fuel up for a big ride with this dish from nutritionist Emily Miazga!

Having a nutritious high carbohydrate meal the night before a long ride or a race is a great way to prepare. If you're serious, you'll want to taper your training and bolster your intake of carbs in the 24-72 hours leading up to the big day—this helps to maximise the glycogen stored in your muscles and liver. This isn't an excuse to fill up on junk or high fat foods, because these will displace the all-important carbohydrate and leave you feeling sluggish.

When I was racing, my attitude towards the carb-loading process was one with a double-edged sword. I love food, so getting to feast with some reckless abandon was fun. However the flip-side was the feeling of eating for the sake of eating, which could get tedious, plus I found it challenging to get in everything I needed because of feeling so full!

This recipe is one that I used a lot. It offers a nice balance between nutritious foods and treats to provide the right amount of carbs.

There are some pitfalls to be aware of:

- Avoid eating too much fat for reasons aforementioned.
- Avoid a lot of fibre because it has a bulking effect in the gut which can inhibit the volume of food you need to eat. Also, too much fibre can cause an over-active bowel on race morning. This means minimising vegetables and not using whole grains.
- Don't go for really spicy foods because they can cause stomach upset, especially if you're not used to them—I've learnt this lesson the hard way!
- Keep protein to a minimum; remember that starchy carbs provide protein and too much concentrated protein (i.e. meat) can displace your ability to get in the carbs and also takes longer to digest.
- Don't use alcohol to carb-load because it displaces nutritious food that needs to be consumed. It also places undue stress on your liver and disrupts normal metabolism.

In this meal, I've included salmon because it is easier to digest than red meat. If you can't be bothered cooking fresh salmon, use some ready-to-eat smoked salmon or tinned salmon instead; simply stir it straight into the sauce while it is simmering. Chicken could be easily substituted as well but avoid beef or other heavy meats.

I've kept the vegetables to a minimum; just enough to provide some nutrition and flair to the meal. The morning of your event you may find your digestive system to be quite active, so too many vegetables can cause what I call the 'salad-shooter' effect—not fun!

For a vegan option, skip the animal protein and go for a generous handful of toasted almonds.

If you need a gluten free meal, then just use GF pasta or substitute rice and use gluten free bread for the garlic toast. For dessert choose an Em's Chocolate Cranberry Craze Bar which is made with gluten free ingredients.

Rest up and load well and you'll kick off your ride feeling like a wound-up spring ready to unleash! This meal will provide you with everything you need and nothing that will slow you down. As an added bonus, this meal is absolutely delicious! MBA



Emily Miazga is a practicing nutritionist (M.Sc. Clinical Nutrition) abd successful multi-spoort athlete (three times Speight's Coast to Coast Multisport Champion). She developed her own energy bars to fuel her adventiures and now sells Em's Power Cookies accross both Australia and New Zealand. www.velovita.com.au

Salmon pasta with mushrooms, olives and fresh rocket







INGREDIENTS (SERVES THREE)

500g regular pasta
1 large jar tomato-based pasta sauce
1 medium onion
5 large mushrooms
3/4 c pimento stuffed green olives
3 generous handfuls of fresh rocket
3 T. extra virgin olive oil
5-6 cloves garlic (garlic powder is okay too)
3 ciabatta rolls, sliced in half
2 pieces fresh salmon (each piece about the size of a deck of cards)
Cracked black pepper and sea salt

METHOD:

1. Cook the pasta in plenty of water, according to the package instructions.
2. Dice the onion and slice the mushrooms and olives.
3. Add 1/2 T. olive oil to a large skillet and sauté the onions, mushrooms and olives for a few minutes.
4. Once the onions become translucent, add the whole jar of pasta sauce and continue to simmer over medium heat.
5. While the onion mixture is cooking, add the other 1/2 T. olive oil to another skillet and begin to cook the salmon on medium heat. Allow just a few minutes on each side and then it is done. Season with salt and pepper then set aside.
6. Chop the garlic very fine and mix with the remaining 2 T. olive oil.
7. Spoon the garlic/olive oil over the sliced ciabatta, season with salt and pepper and then grill for a couple minutes until golden brown.
8. Drain the pasta.
9. Prepare the plates with a bed of rocket, top with 1/3 of the pasta, 1/3 of the sauce mixture and 1/3 of the salmon, and 2 pieces of garlic toasted ciabatta.
10. For dessert, choose one of either four ginger nut cookies, a large sweet roll or an Em's Cranberry Bar. All the while during cooking and eating sip on a 750 mL bottle of your favourite sports drink.
    Bon appetite!

Garlic Ciabattas



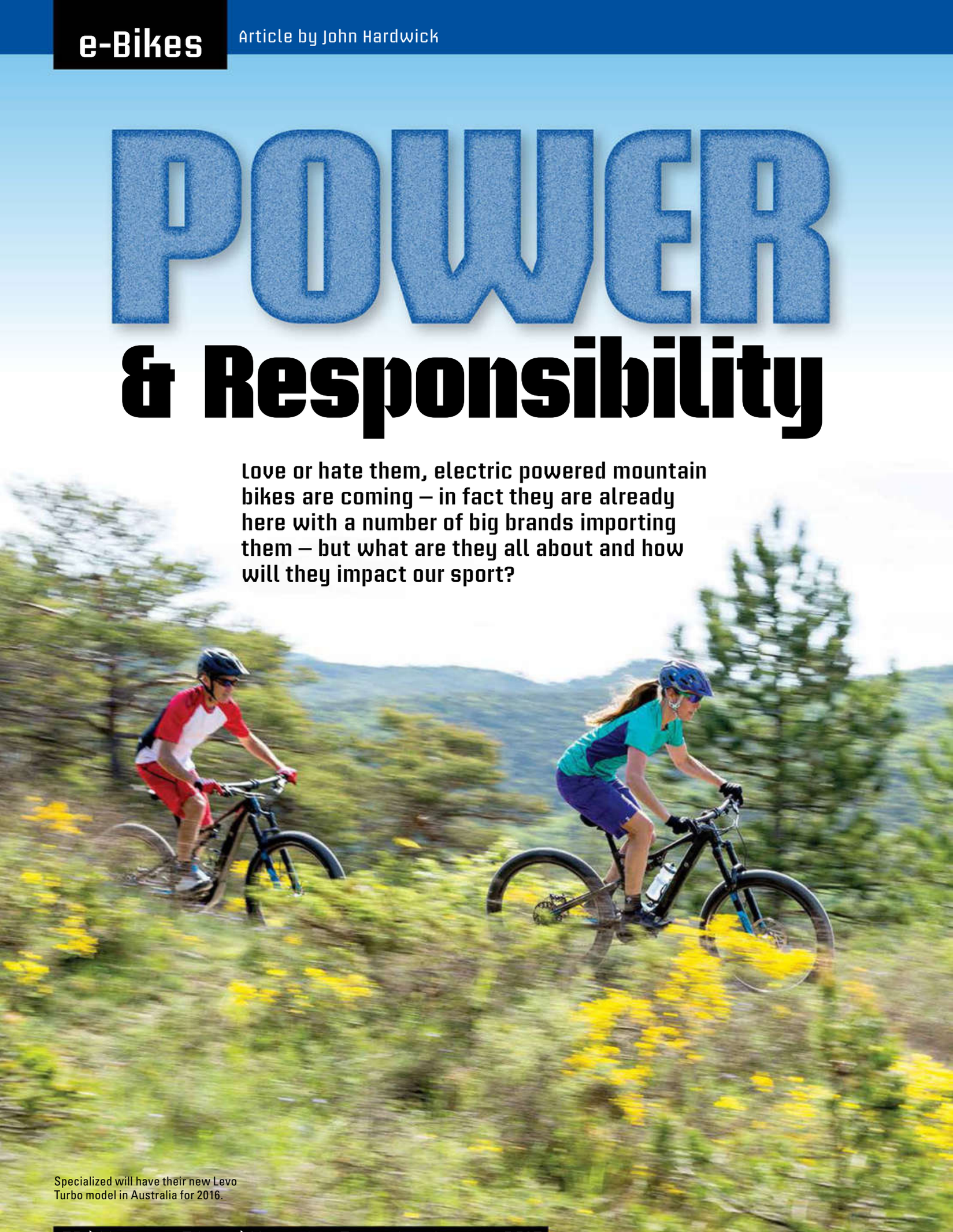




Article by John Hardwick

POWER & Responsibility

Love or hate them, electric powered mountain bikes are coming – in fact they are already here with a number of big brands importing them – but what are they all about and how will they impact our sport?



Specialized will have their new Levo Turbo model in Australia for 2016.

Mountain bikers are a pretty relaxed crowd. Compared with the road cycling fraternity we tend to be far less uptight and worried about what we're riding or how we look—as long as we're out enjoying the trails then it's all good, right?

Well that's what I thought until I started reading some of the social media posts relating to off-road e-bikes. Sure people can get a bit passionate about their favourite wheel size or some new hub standard but I was seeing a whole new level of hate. A handful of people seem open to the idea but most believe they are pseudo motorbikes for lazy people and they're going to tear the trails apart.

E-BIKE BASICS

So what are these contraptions and are they set to be the terror of the trails as many assume?

The term e-bike is commonly used to describe a pushbike that incorporates an electric motor. Like anything, there are a few different types of e-bike and their designation has a major bearing on the nature of these machines.

Currently there are two types of electric pushbike that are deemed legal in Australia. By legal I mean you are allowed to use them on the road as you would with any other non-motorised bicycle. First up is the traditional e-bike; these must have working pedals and the motor can't produce more than to 200 watts. While they do have a motorbike-style throttle, the limited power ensures that they aren't capable of pulling massive roosts up the trail.

More recently, bikes that conform to the European EN15194 standard have been declared fit for sale in Australia. These bikes can have a 250 watt motor but they don't have a throttle at all. Instead the motor automatically provides assistance as you pedal—the harder you pedal, the more it assists. Once you reach 25kph, the power simply cuts out. This newer breed of electric bike is known as a 'pedalec'.

In addition to the purpose built pedelecs and e-bikes, you can also buy conversion kits to fit to a regular bike. Many of these kits stemmed from the days when there were few dedicated e-bikes available in Australia. With these, the onus is on the creator to ensure that it meets the regulations.

If all this makes you think of that bogan who passes you on the bike path whilst carrying a case of VB on the shoulder, well wipe that image from your mind right now. It's illegal to ride a combustion engine equipped pushbike on roads and paths in all Australian states and any petrol powered bike is producing way more than the 200 or 250 watt figure that's allowed on an e-bike.

A 200 watt internal combustion engine (equal to 0.268 horsepower) would have a capacity of four or five cubic centimetres and be about the size of a standard medical syringe—it simply wouldn't produce enough torque to propel a bicycle. Modern e-bikes cost anywhere from $2,000 up to $15,000 and bear no resemblance to the typical bogan rocketship. By design you still have to pedal when riding a pedelec and you'll get quite a physical workout, they just allow you to cover more ground and take the sting out of climbing.

Beyond all of this, there's also a breed of high-powered e-bike that doesn't even pretend to meet the existing regulations. These bikes are usually promoted as being for off-road use, but it's usually not that simple—see 'High Powered e-Bikes' on page 66.

RIDING WITH POWER

For the sake of this article, we'll focus primarily on pedalec bikes. This is where the high-end and enthusiast market is heading, and all of the latest electric MTBs from the major brands are made to meet the EN15194 standard.

Why Go Electric?

Electric assist bikes can appeal to a broad spread of people; from lifelong mountain bikers to complete newcomers.

- Making the fitness side of the sport less daunting can draw newcomers.
- They allow those who are injured, older or less physically fit to ride at a level that makes the sport appealing and enjoyable.
- Couples who face widely varying fitness levels can complete a long ride together without the weaker rider being crushed.
- Even fit riders can benefit; an extra 250w will make a brutal two hour alpine climb more manageable.
- You'll ride further for the same effort, experience more trail and won't shy away from big climbs.
- For gravity riders, they can negate the need for shuttling (something that often angers local residents).
- They make a good (albeit expensive) N+1 bike. The added weight makes them less agile when descending but the climbs become fun instead.

If you like to crank up massive mountains under your own power and bomb down the other side, these points mightn't strike a chord. Of course they will appeal to others and pedalec style e-bikes are relatively silent low-impact machines. Sharing the trail with them won't hurt you so keep an open mind about this. Of course they raise other issues as outlined elsewhere and that's why we need to manage this new trend appropriately.



Europeans love e-bikes and I'd be tempted too if faced with a two hour climb to get to the top of my favourite singletrack descent.

© Damian McArthur



Most Pedelec MTBs run a mid-mounted motor; it's usually integrated into the bottom bracket area with the battery fitted to the down tube. A handlebar mounted control will select the power level. No matter how you set it, you still need to pedal and it'll always cut out once you reach 25kph. The higher assistance levels will just add more power to your pedal strokes at the expense of the battery life. If you can produce 250 watts of leg power and select the maximum level of assistance, the pedalec will just about double your power output.

Of course this power is tempered somewhat by the added weight. Your typical e-MTB weighs 18-25kg—more than a DH bike. Even so, they still give an average mountain biker the leg power of an elite XC racer and will have you climbing hills much faster than usual (or holding your usual pace with substantially less effort).

TRAIL IMPACT

So, do e-bikes rip up the trails? So far there haven't been any formally recognised studies into their impact but once you've ridden one, it's not hard to make some observations.

Hopping on an e-bike is like strapping on some Nino Schurter legs. An average recreational mountain biker might be able to sustain 200 watts if they're pushing it. Put them on an e-bike and they'll produce 550-watts; it'll feel great but it doesn't in any way compare to riding a dirt-moto. If you do lose traction and spin the back tyre, you cease applying torque through the pedals and the assistance stops—there's no continuous roosting along the trail with a 250-watt pedelec.

People often suggest that the added weight will increase the damage to our trails. With a typical e-MTB sitting at 23kg, they weigh around 10kg more than a regular MTB. As it stands, riders can vary from 50kg up to 100kg or so; that's a far bigger difference than you get between the bikes. If weight is such a concern, then maybe we should be excluding bigger riders from our most fragile trails. If anything the added weight of an e-bike makes it more 'planted' on the trail and less inclined to lose traction and slide around. That's my observation having ridden a few different e-bikes but we also spoke to Nick Bowman to get an expert opinion on the potential for impact.

Nick is a long-time trail advocate trail builder and was the founding president of IMBA Australia. He also has a background in conservation and park management—he knows his stuff when it comes to sustainable trail building. He suggests that, "e-bikes may not have significantly more impact at an individual level, however they could lead to more people riding and more people riding further on naturally surfaced trails.

"While there are positives to getting more people on bikes, an influx of newcomers and generally more people riding further will mean more impact. Many trail systems in Australia don't have formal trail maintenance programs in place. So, on one hand you'll have volunteers working hard to keep trails in good shape while the bike manufactures make sizable profits with little regard for where these machines will be used—a situation that hardly seems fair."

> "LOOKING PAST THE KNEEJERK REACTIONS, IT SEEMS THAT RIDING A PEDALEC STYLE E-BIKE IN THE BUSH MIGHTN'T BE ALL THAT CATACLYSMIC WHEN IT COMES TO THEIR PHYSICAL IMPACT ON THE TRAIL."

For another view we got in touch with Glen Jacobs, director of the renowned trail building company World Trail. He loves the idea of e-bikes and has ridden a few of them previously, stating, "I've always been an advocate for innovation and evolution but I don't believe in anything where you've got to twist a throttle for MTB trails. With pedal assist e-bikes, I think they are a great idea. It's not a great idea for me personally or 95% of the current MTB population but it's got the potential to engage a whole bunch of new people.

"As for damage to the trails; if you're looking at a pedal assist e-bike, I can't see them being a big problem, although there is the potential for them to travel faster on the flatter and climbing sections of trail. Being power limited to 25kph may seem slow if you're riding across an open field but it's pretty quick on a narrow singletrack. We design a trail to be ridden

at a certain speed and pedal assist bikes will have you approaching uphill corners at a higher speed than you normally would. This could lead to some additional abrasion on the trail, as riders may end up skidding into corners.

"In the right hands, I don't think an e-bike poses any problem; it's like anything really whether it's guns or cars. I think we just need to give them a go – maybe just on the fire trails to start with – and see how they fare. They may not be the boogie man that everyone fears, or they could be worse than we think—we really don't know. At the end of the day, if they're not doing damage and nobody is riding them too fast, then I think it'll all be okay."

ELEPHANT IN THE ROOM – THE BIGGER ISSUE OF TRAIL ACCESS

Looking past the kneejerk reactions, it seems that riding a pedalec style e-bike in the bush mightn't be all that cataclysmic when it comes to their physical impact on the trail. There is a bigger issue however, and that is how we are perceived as mountain bikers.

For many years, MTB groups have struggled to gain access to trails because your average non-cycling land manager didn't know what a mountain bike was. Their only exposure to the sport may have been a 20 second clip of some 'extreme' riding action on television. With this and little else to go on, it's pretty easy to draw the conclusion that we're a bunch of crazies in search of a massive adrenaline fix. With fat knobby tyres and a bunch of suspension, a mountain bike is only a hop skip and a jump from a motocross bike in the minds of many diehard bushwalkers.

MTB advocates have spent decades educating government organisations, land owners, community groups and environmentalists on what a mountain bike is and how it differs from a motorbike. Much of the rhetoric revolved around mountain bikes being human powered—like bushwalkers with wheels.

As much as things have progressed, we're still a in a relatively tenuous spot and the idea of MTB trails still meets a great deal of resistance in some areas. The risk with e-bikes is that they stand to reaffirm the ill-informed view that mountain bikers are just the same as moto riders. Sure we can start explaining the complexities of pedalecs and how they are just like a pushbike but the argument may fall on deaf ears.

Land managers may also hold concerns with the potential for future development. Electric bikes are currently limited to provide very modest performance, but what's to say that these regulations won't change to allow much higher speeds and more power? If e-bikes are excluded, who is going to regulate this at the trailhead? The last thing we want is all forms of MTB being kicked out because a land manager isn't capable of policing the regulations.

Nick Bowman reaffirms these fears, "Many MTB trail advocates have worked hard to ensure mountain bikes are accepted in Australia's public reserves and open spaces. There is still a fair way to go in order to achieve this goal. Most of the urban areas on the east coast are only just getting to the point where new purpose built and fully funded trails are being rolled out. It's still early days in many ways.

"A core argument in advocating for singletrack in conservation areas is that riders are seeking an experience in nature under their own power, just like a hiker—this part of the argument falls down with e-bikes. Powered bikes are not what I've been advocating for over the last decade and a half, that's for sure."

It's certainly a valid concern and the US is currently facing the same dilemma. Like us, they've endured a long battle with strong resistance from groups like the Sierra Club and adding motors to the mix doesn't help our public image.

GLOBAL VIEW

The US based International Mountain Bicycling Association (IMBA) offers this view on e-bike; "Electric bicycles are a welcome addition to the cycling community … however, the use of a motor whether internal combustion or electric would require changing the classification



e-Bike Brands

A number of brands already sell e-mountain bikes in Australia with some major labels arriving soon. Specialized will have their Levo Turbo, which is expected to be available in the first half of 2016. French MTB brand Lapierre will be bringing in their Overvolt for 2016 as well. Both of these are high-end machines aimed at MTB enthusiasts and a long way from the commuter e-bikes that we typically envisage. Trek also has a couple of e-MTBs in their line-up but don't plan on selling them here—not at the moment anyway.

Currently Focus, Scott, BH Bikes, KTM, Lombardo (Italy), Gepida and Haibike sell proper off-road-worthy e-bike models in Australia. Haibike mightn't be a name you are familiar with but the German brand was the first to hit it big on the European e-MTB scene. Curious to see how these things sell Down Under I spoke with the local Haibike distributor. I was told they can't get them fast enough and each shipment gets pre-sold. The stock goes straight out as soon as a container load arrives, and these are all bikes in the $6,000 to $8,000 price range.

Based on this, it's pretty easy to see why the major brands would like a piece of the action.

ABOVE: The Haibike XDuro is an EN15194 approved pedelec that sports 150mm of travel and sells for around $8,000—it's clearly aimed at the MTB enthusiast.

to a motorised use. IMBA would support the use of e-bikes anywhere that we could also support other motorised uses." In short, IMBA doesn't support the use of e-bikes on MTB singletrack.

European nations take a far more liberal view on e-bikes. Initially the attitudes in France and Spain mirrored the US but now they have also jumped on the e-bike bandwagon. French DH and enduro legend Nicolas Vouilloz uses an e-bike in training, as it helps him get a few extra runs in without needing a shuttle or ski lift. Ride some MTB trails in Germany or Austria and at times there can be as many powered bikes as unpowered. Despite this popularity, their MTB communities haven't imploded and everyone still manages to get along.

E-BIKES ON AUSSIE TRAILS

So what about Australia; are you actually allowed to e-bike on our MTB trails?

Unfortunately there's no simple across the board answer to this. It all depends on where you want to ride and the policies that apply to your particular patch.

Some reserves that are managed by Queensland Parks and Wildlife (SEQ office) have signage that excludes 'motor vehicles', but this signs refers to petrol, diesel or LPG powered vehicles—they were installed prior to electric bikes being available in Australia. QPWS has confirmed that you can ride an EN15194 approved pedalec or an electric-assisted bike (of not more than 200 watts) on QPWS-managed mountain bike trails and on other trails where bicycles are allowed. QPWS expects to publish an information sheet soon to help the public understand these rules.

Hop across the border to NSW and it's a different story. NPWS redid their cycling policy in 2011 and their definitions are as follows; 'Cycling means riding a bicycle in any style. Bicycle means any pedal powered vehicle with wheels, including mountain bikes, road bicycles and tricycles. This does not include motorised bicycles, which are defined as 'motor vehicles' under the National Parks and Wildlife Act 1974.' As a result, you can't ride an e-bike on any NPWS singletrack and even gated off management trails will be out of bounds (like the Oaks trail in the Blue Mountains near Sydney for example).

With reserves that fall outside of NPWS jurisdiction, it depends on the local land management policy. Look to Stromlo Forest Park in the ACT and the statement on their home page makes it pretty clear; "No motorised vehicles of any kind or remote control devices are permitted."

High Powered e-Bikes

In addition to the legally approved electric bikes, there are a number of high-powered e-bikes being sold in Australia—some are locally produced while others come in as kits that are bought on-line. They can be absolute beasts, often looking like a motocross bike and producing upwards of 5,000 watts.

As this is clearly beyond the legal power restrictions, they are typically pitched as being for off-road use only. When you look at the Road Transport (Safety and Traffic Management) Act 1999, this generally means private land. It certainly doesn't include state forests, fire trails, national parks or any other areas that are open to the general public.

Ride a high-powered e-bike on the trails and you risk being charged and fined for riding an unregistered vehicle. Of equal if not greater concern is the fact that by being unregistered, you could be personally liable for any damage or injury caused if you are involved in an accident.



The 5,200 watt Stealth Hurricane weighs 38kg and can do 80kph. These shouldn't be ridden on any publicly accessible MTB trails—it's basically an electric motorbike.

Nick Bowman believes that, "e-bikes should only really be allowed in specific bike parks or designated areas. Shared use trails, national parks and other sensitive areas should only allow for human powered vehicles and the more traditionally accepted forms of physical activity."

"Legal trails all around the country are feeling the pressure of high use," says Nick Bowman. "More funds are need for trail maintenance to cater for the expected growth. It would help if there was an easy way for companies (like bike manufacturers) to sponsor individual trails or whole trail programs. We need to look at new models rather than expecting state governments to keep handing out tax payer funds."

Existing exclusions don't mean e-bikes will be banned for eternity in these areas. It's just that policy will need to change if pedal assist users want access that parallels that of an unpowered MTB. This could be on the cards if lots of people take up e-biking (as we've seen in Europe) and the people that I spoke to at QPWS and NPWS certainly seemed open to the concept.

While they hold no prejudice against e-bikes, they were also well aware of the distinction between this new technology and regular mountain bikes. It seems their main concerns rest with risk and liability and whether the trail network can handle the additional traffic if e-bikes attract newcomers as anticipated.

An influx of new riders may sound scary but more bums on bikes could be beneficial for advocacy efforts. It may take us from being a minority group to a larger one with more political weight but only time will tell.

Whether you are for or against them, it seems that a sizable portion of the bike industry will be supporting e-bikes and shops around the country are already selling them—sticking our heads in the sand won't make them go away. We need to accept their existence, educate ourselves and develop an approach that doesn't place current MTB trail access at risk. MBA

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Article & Photography by John Hardwick

Gear & Gadgets

Mountain biking is fun but there's also a host of related gadgets that may help you get a little more out of your riding. Here's a selection of handy tech-oriented gear currently on the market.



POLAR V650

Finnish brand Polar is well known for their range of heart rate monitors and other fitness oriented devices but now they've launched into the GPS cycling computer market with the V650. It features a large 2.8 inch touch screen that allows you navigate by swiping between the different mode screens (with or without gloves). It'll upload your ride data to Polar's web service and automatically transfer it to Strava if you wish. It even incorporates a tiny front LED light that can get you out of trouble if you get stuck out after dark.
Price: $399 ($449 with heart rate)
Pursuit Performance (08) 8100 8600
www.pursuit-performance.com.au



SHIMANO CM-1000

This action cam goes a step or two beyond most as it can be linked via Shimano's D-Fly wireless Di2 transmitter and gather speed heart rate, power and other data while you ride. It can also be used with other ANT+ devices to collect your ride information, which can be displayed along with the video footage. Aside from these hi-tech features, it also serves as a compact (86g) wide-angle camera that's waterproof up to 10 metres without needing an external case. Price: $449
Shimano Australia (02) 9526 7799 / www.shimano.com.au



MORSA MOUNT

If you've got a gadget addiction, you may find yourself running out of room on your handlebars. The Morsa Mount is a modular handlebar bracket that can hold cameras, phones, cycling computers and even lights. It's made from carbon reinforced nylon and suits 31.8mm handlebars.
Price: $55 with two mounts ($15 for additional fittings)
Full Beam Australia www.fullbeam.com.au





SIGMA SPORT ACTIVO

Looking beyond your time on the bike, an activity tracker can record and quantify all activity, even your sleep and recovery time. The Activo records the number of steps taken each day including the distance covered and calories burnt. It measures the amount and quality of sleep and lets you analyse the data via their app. It's watertight with a silicon band, weighs just 18g and is said to go for up to eight days between recharging.
Price $129
Bikecorp www.sigmasport.com



GARMIN EDGE 520

The 520 is an updated version of Garmin's longstanding 510; a mid-sized cycling GPS with a 3.5 x 4.7 cm touchscreen. It offers a host of new features to keep you motivated including live interaction with Strava. As you ride, the 520 will provide live feedback on your progress on any segments that you've stared on your Strava account. It can also be paired with a compatible ANT+ indoor trainer for specific power training and can sync with a smart phone to offer on screen notifications for text messages and social media.

Price: $399 ($499 with heart rate and cadence sensor)

FE Sports www.firstendurance.com.au



ECHOWELL U4W

While GPS devices have changed the face of the cycle computer market, there's still a place for the simple and affordable digital speedo. With a fork mounted sensor and wheel magnet, the Echowell U4W is an affordable wireless cycle computer. Sure, it won't connect to Strava and tell you how slow you are but it will display your speed (current and average) as well as the trip and total distance. It's both simple and affordable.

Price: $39

Southcott www.southcottcycles.com.au



CATEYE PADRONE SMART

Load the appropriate app and your phone will do almost everything your typical cycling GPS is capable of. While this can be handy, phones are bulky, fragile and expensive to replace. That's where the Padrone Smart comes into the equation; it connects wirelessly with your phone and provides a compact bar mounted display for all of your ride data—the phone can remain stowed safely in your pocket or backpack. It also displays phone and SMS information while you ride, so you can decide whether the call is worth taking or not. Alternately, the Padrone Smart can also link directly with optional Bluetooth sensors to record your speed, heart rate and power data.

Price: $149

Sheppard Industries 1300 883 305
www.cateye.com



DRIFT GHOST S

The POV camera market is a crowded one but the Ghost S from Drift Innovation offers some standout features. First up it offers a 3.5 hour battery life, which is said to be the longest for a camera of this type (they also have options to increase the battery life even further). It's waterproof to three metres and features a built in two inch LCD screen that offers a live preview and replay. There's also a wireless remote control. With this you can leave the camera rolling and hit a button once you've captured something interesting; it will then save a predetermined amount of footage before and after, but you won't need to sift through all the boring stuff when editing.

Price: $479

Monza Imports www.driftinnovation.com

LEZYNE MINI GPS

Gadgets are cool but not everyone wants to be overwhelmed by masses of features. The Lezyne Mini is a cycling GPS that focuses on providing the basics in a super small package. Externally it measures 33 x 51 x 22mm and it weighs just 30g. While it won't capture power or heart rate data, it gives you all the usual cycle computer functions such as speed, distance and time as well as average and maximum speed. It even records elevation, vertical ascent, descent and allows you to upload rides as .fit files (put them on Strava and other sites if you wish). If you need more information and connectivity with heart rate monitors and the like, Lezyne have two other models that will give you what you're after.

Price: $189

Monza Imports www.lezyne.com

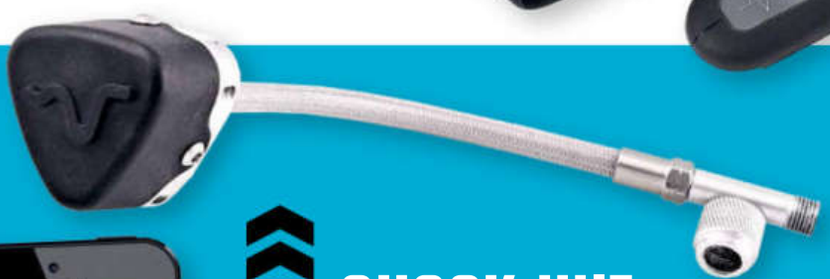


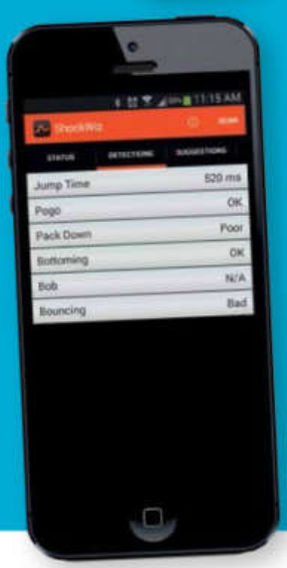


BBB APP

The BBB BikeBoard is a stripped back, no-nonsense app for recording your rides. It delivers the important information that most will want with no unnecessary buttons or features. Aside from its ease of use, this also results in extended battery life on your phone as it minimises the processor usage. The display is customisable and you can change the layout by dragging and dropping. Rides can be uploaded directly to Strava and BBB complements the app with Bluetooth heart rate ($99) and cadence ($89) sensors to expand the range of information that you can collect.
Price: Free app
Bikesportz
www.bikesportz.com.au







SHOCK WIZ

For many, the concept of suspension tuning ranks right up there with saucery and witchcraft. This gadget promises to take the guesswork out of your suspension setup. It fits via the schrader valve to your air sprung fork or rear shock. Once calibrated, it can sense how frequently the suspension bottoms, measures the rebound speed and a whole lot more. After a test ride, the data can be uploaded to an app for analysis. The app then provides tuning suggestions that you can follow to optimise your suspension tune. A great example of Aussie innovation!
Price: $340
Dusty Dynamics www.shockwiz.com



KNOG QUDOS

Designed specifically with the GoPro camera in mind, the Qudos uses three Cree LED emitters to provide a little extra illumination when filming in low light. It's supplied with a special bracket that holds both the POV camera and the Qudos, as well as an adaptor for DSLR cameras and a tripod mount. The light itself puts out 400 lumens with a beam that can be varied between spot and wide angle. It's waterproof up to 40 metres and the built-in rechargeable battery provides up to four hours of light (40 minutes on the brightest setting).
Price: $149
Apollo Bicycle Company
(03) 9700 9400 www.knog.com.au



STAGES POWER METER

For many coaches, power is the preferred means for analysing performance in both racing and training. However, most power measuring devices are very expensive and not always easy to swap from one bike to the next—a potential issue if you have separate bikes for racing and training. By mounting specially calibrated strain gauges along a left hand crank arm, Stages has created one of the most versatile and affordable power metres on the market. The power measuring unit only adds around 20g to the weight of a regular crank arm and it's relatively easy to swap from one bike to the next (assuming both bikes share the same brand and length crank). Its built in accelerometer also measures pedal cadence without any external magnets and the Stages device delivers the data wirelessly to any ANT+ or Bluetooth compatible device. Stages arms are available for a wide range of SRAM and Shimano MTB cranks (alloy only).
Price: $799-$999
FE Sports www.firstendurance.com.au



SHOCK MOUNT

Footage from bar mounted POV cameras always seems to suffer with vibration and noise. The Shock Mount aims to mitigate this by isolating the camera on its own mini suspension system. Additionally, the slim bracket frees up handlebar space and the mounting bar can also hold lights, GPS devices or other gadgets. It's rated to carry 350g but a stiffer 450g spring can also be fitted if required.

Price: $110

Bicycle Warehouse Pty Ltd
(07) 3205 6969
www.shockmount.com.au





TOPEAK RIDECASE

Plenty of people use their mobile phones as cycle computers but phones need some well thought out protection if you're going to take them mountain biking. The Topeak Ridecase uses an impact resistant injection moulded body with a weather-proof IP66 rated shield to keep water and dust out. Whilst inside, the touch screen and other buttons remain accessible. The Ridecase is supplied with fittings that allow for handlebar, stem or headset cap mounting and the case can be rotated for either landscape or portrait viewing. This product is currently available to suit the iPhone 5 and iPhone 6.

Price: $99

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Article by Steve Hinchliffe | Photography by John Hardwick



All-new for 2016, the big wheeled Fuel EX brings with it a host of new features, but how does it perform?

Trek Fuel EX9 29er

The Fuel EX series from Trek has lived several different lives. It's had 26, 27.5 and 29 inch wheels. It has been fitted with regular rear shocks as well as Trek specific DRCV models and now their special Re:Aktiv shocks. It's had 32mm and 34mm stanchion forks, 1X, 2X and 3X drivetrains, fixed and dropper seatposts, narrow bars and long stem; the list goes on. Slotting in between the race-focused Top Fuel and the all-mountain/enduro Remedy, the Fuel EX has always been Trek's go-to bike for general trail use, and it has evolved steadily as the desires of MTB riders have changed.

I well remember the first 26-inch Fuel EX; it was a fantastic fast trail bike for chopped out and rocky terrain, with enough legs to get you out of trouble and an attitude intended to keep you on the rivet. Then came the surge of trail oriented 29ers; whilst they were very capable all-day bikes I feel they lost their zest for life—to me they were all business and no pleasure.

Last year the middle wheel size was added to the Fuel EX line up. It went quite some way towards recovering the playful nature of its predecessors and it continues unchanged within 2016 range. The 29er however has had a thorough revamp in an attempt to find that alchemical combination of big wheels and playful temperament.

The 29 inch wheeled Fuel EX is available in four alloy framed variants with prices ranging from $2,299 to $4,799 (our EX9 is the top alloy model). Above that you can get a carbon EX 9.8 for $5,999 and there's even the option to build yourself a custom Fuel EX through Trek's Project One program.

Our EX9 test bike sports a 130mm travel Fox Float 34, whilst all other models run 120mm forks to match the rear travel. SRAM supplies the wheels, 1x11 drivetrain and dropper post while the brakes are Shimano XT. In-house Bontrager tyres and cockpit components complete what is a reliable build; there's nothing you'll need to change here until things start to wear out. The all-in weight of 12.8kg without pedals (size 19.5) is better than average for a bike of this nature, and the 3,220g frame (including shock) is also on par with the majority of the competition.



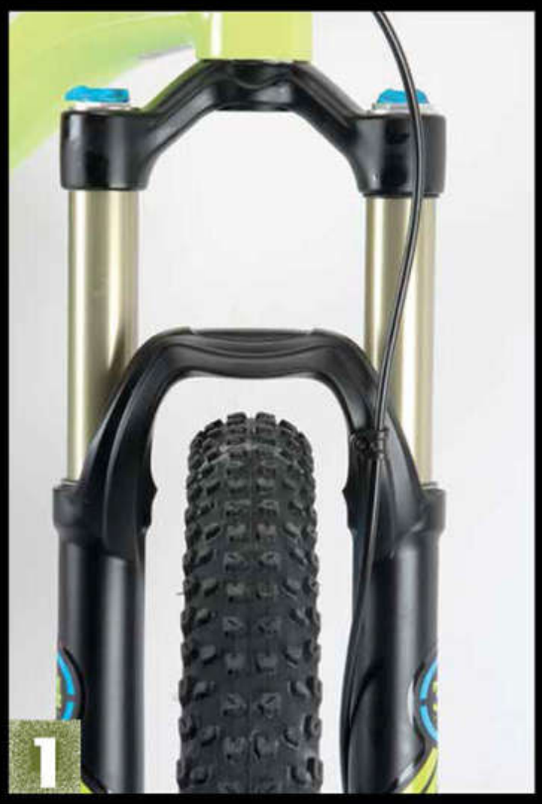
Double pass welds give the frame a smoother look and the water bottle mounts inside the frame will be greatly appreciated by those who don't always want to ride with a pack. It also features a removable front derailleur mount and unique under the top tube cable guides should you feel the need to add an extra chainring. New 'Control Freak' internal cable routing for the rear derailleur and dropper post keep things looking clean while allowing a few different cable setup options, although the ports aren't overly large so cable swaps will be a little fiddly. The rear brake hose is run externally on top of the down tube, and we're totally fine with that. It's also nice to see plenty of clearance for tyres up to 2.4 inches wide inside the rear triangle—a trail bike needs room for trail-worthy tyres, not just pizza cutters.

ONGOING EVOLUTION

There are a few other changes to the 29er Fuel EX range for 2016, and whilst in isolation they might not seem like much, the net result is quite significant. The EX8 and EX9 (in both wheel sizes) come with Trek's Re:Aktiv damper instead of the previous DRCV shock. This was released on a few select models last year and it's good to see this technology finding its way onto more bikes. It certainly works well and in most terrain allows you to set the shock up for your weight and then leave it completely alone.

All of the 29-inch models from the EX8 and up also get the new Boost hub 'standard'. Pushing the rear dropouts out to 148mm and the front to 110mm allows for wider spaced hub flanges, and hence wider spoke bracing angle, to offset the inherent flex of the larger wheels. The Boost system also shifts the chainring an additional 3mm from the centre line, creating a little extra tyre clearance and allowing Trek to tuck the wheels in closer to the bottom bracket. As a result, the chainstays have gone from 452mm to a much more playful 437mm—almost as short as the 27.5 wheeled EX models. At the same time, the bottom bracket has been lowered by a few millimetres and the reach was increased by a similar amount.

Whilst the head angle is still on the steeper side (68.8-degrees in the slack setting), all of the other changes combine to create a bike that doesn't feel as twitchy as the head angle alone might have you believe and the significantly shorter back end makes it a lot easier to get your weight back when things get steep or chunky. Remember, though, that these changes only apply to the $3,499 Fuel EX8 and above; the lower spec models continue with the older numbers for a very effective but potentially uninspiring and XC-biased ride.







1. The 2016 Fox fork leaves room for gargantuan tyres if you wish.

2. With the introduction of the new Fox EVOL negative spring, Trek has decided to drop their more complex DRCV system. It certainly performed well, offering super supple and active suspension.

3. Alloy bikes need down tube protection too, and the Fuel comes with a thick rubber pad already fitted under the frame—just in case.

The other obvious change, which I've already touched upon, is the new suspension from Fox. This was my first taste of the new Fox 34, and I like it a lot. I'll save the details for our stand-alone review on page 42, but suffice to say that the RockShox Pike is no longer the only serious contender for the top spot in the mid-sized fork market, and the 34 undercuts the Pike's weight by around 85 grams. At the back end, the new EVOL air can with its larger negative spring provides a similar feel to the previous DRCV shock; supple off the top, plenty of support in the mid-stroke and enough progression to keep it from smacking the bump stop on all but the most foolhardy drops.

"LIKE MANY OF YOU, I'M NOT A FAN OF THE CONSTANTLY CHANGING 'STANDARDS' THAT WE'RE SEEING AT THE MOMENT, BUT I SUSPECT BOOST IS HERE TO STAY."

The Re:Aktiv damper, developed in conjunction with motorsport legends Penske Racing, is a great bit of technology. When switched to the middle or firm damper settings, it provides a noticeable pedalling platform, but with a faster and more complete 'blow off' than seemingly similar dampers from other brands. Initially I set the rear shock with about 25% sag and found that for my tastes (I like my suspension supple) the middle setting felt a bit too firm and I still wasn't using all the travel on descents. Once I dropped the shock pressure to allow 30% sag, the Fuel EX9 really hit the sweet spot. In the open mode it was very smooth and responsive without wallowing or excessive bottom out, while the middle setting was more of a set and forget mode for everything but the roughest descents. It's a great combination; you can run low air pressure for plenty of sag to keep the rear wheel glued to the ground and let the damper control unwanted movement caused by the rider's weight and pedalling motion.

ON THE GAS

The definition of a trail bike is a tricky one. Depending on where and how you ride, it could potentially cover anything from marathon riding to rock and root riddled natural terrain—both with and against gravity. For some it may even include intermediate jump trails at a bike park. That's a lot of variation to cover and getting the mix just right is no mean feat. For a major brand like Trek, who also have dedicated XC race bikes and enduro rigs, it's also difficult to avoid crossover with adjacent models in the range. With the new Fuel EX9 29er, I have to say I think they've got the balance just about perfect; it'll do all of the things you'd expect from a bike of its type, and it does it all very well.

Combined with the lower bottom bracket and longer top tube, the seemingly steep head angle works to provide quick steering for switchbacks and tight tree-lined trails whilst providing enough stability at speed downhill to keep you from going 'OTB' at the sight of the first step down. Most noticeably though, the Fuel EX9 puts the fun back into big wheels, thanks in no small part to the 15mm Trek have lopped off the back end. Short chainstays invariably make a bike easier to manual and jump whilst adding a flickable, playful nature to the ride quality, and the EX9 has those traits aplenty. It still has the slightly slower turn-in inherent to the bigger wheels, but otherwise you could easily forget you're on a 29er.

Trek claims they developed the wider Boost hub standard specifically to address the issue of chainstay length and clearance on 29ers. We're not going to swallow that line completely, because we've previously seen other companies make similar travel 29ers with chainstays down to 430mm, but there's no question that the Boost spacing makes it significantly easier. Like many of you, I'm not a fan of the constantly changing 'standards' (there's a misnomer if ever there was one) that we're seeing at the moment, but I suspect Boost is here to stay. As a result, you won't be faced with any real shortage of options if you wanted to replace the stock wheels. There are too many variables to be able to subjectively say that the wider spacing improves stiffness, but the logic is completely sound and Trek's claims of objectively measuring improvements in this area seem totally reasonable.

Getting back on track, the Fuel EX is a nimble and capable climber whether the trail is smooth or rough, and it eats up sweeping turns and fast berms for breakfast. Pedalling efficiency is great in the middle or firm settings thanks to the fancy shock damper, but even in the open setting it'll still get along without excessive pedal bob. Should you choose to replace the stock 32-tooth chainring for a 30T (as many riders do on 29ers), its pedalling manners will only improve further. As we've come to expect from Trek's ABP suspension design, it also remains very active over uneven ground, whether you're cranking, coasting or throwing out the anchors.

The 750mm wide handlebar gives plenty of leverage over the big front wheel when you need it to change direction quickly, and although the 70mm stem might seem long given the current trend for super-stubby stems, it does help to keep weight on the front wheel for added traction when on the flat and keeps the front wheel tracking on steep


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4. There's plenty of clearance for mud or bigger tyres at the back end of the Fuel.

5. The RockShox dropper remote marries tidily enough with the Shimano brake lever but an under-the-bar lever would have been easier to use.

6. Boost isn't just about wider hubs, the chainring also shifts outboard, creating more room for wider tyres and/or shorter chainstays

7. The 'Mino Link' allows you to fine tune the frame geometry; slacker for better stability at speed or steeper for improved climbing performance.

8. Flip the blue lever and the Re:Aktiv damper makes the Fuel a snappy pedaller whilst still performing well over the bumps.



8

climbs. I've said it before, but the latest tyres from Bontrager have been excellent, and the XR3s as spec'd are no exception. They offer a great combination of fast rolling and reasonable traction in most circumstances, although aggressive riders might want something meatier up front.

Gripes? Precious few really. It still irks me that a bike with a 1X drivetrain and a Reverb seatpost doesn't come standard with the remote mounted under the bar on the left where it belongs, and whilst the Roam wheels have proven reliable and easy to live with, their narrow width means you can't run lower tyre pressures without the risk of rolling a tyre off the rim or burping air. I'd also be a little concerned that the shorter fork on all other Fuel EX 29er models might put its bias a little too far to the XC spectrum, which is something to bear in mind if you ride steep, rough and fast trails. Other than that, there really isn't anything to complain about.

If the definition of a modern trail bike is something that you could take to just about anywhere and ride everything bar full-on DH territory, then the new Fuel EX9 29er ticks all the boxes. If you want to race, the Top Fuel is a better choice; likewise if you grind your way uphill purely for the downs you'd be better off with a Remedy or Slash. If you fit somewhere in between those two, the EX definitely deserves a very hard look. The updated geometry and suspension, especially on the longer-forked EX9, make for a bike which is extremely versatile, and most importantly the Fuel has rediscovered its spark. The vast majority of us don't ride for medals or prize money, we ride for fun; and the 2016 EX9 is a very fun and capable bike. MBA

Specifications

Frame	Alpha Platinum Aluminium
Shock	Fox Float EVOL 120mm Travel
Fork	Fox 34 Float, FIT4 130mm travel
Headset	FSA E2 sealed cartridge
Handlebars	Bontrager Race Lite Alloy 750mm
Stem	Bontrager Rhythm Comp 70mm
Shifters	SRAM X1
Front Derailleur	N/A
Rear Derailleur	SRAM X1
Cassette	SRAM XG-1150, 10/42 11-speed
Chain	SRAM PC1130
Cranks	SRAM X1 32 tooth
Bottom Bracket	SRAM GXP
Pedals	N/A
Brakes	Shimano XT
Wheels	SRAM Roam 30
Tyres	Bontrager XR3 Expert
Saddle	Bontrager Evoke 2
Seatpost	RockShox Reverb Stealth
Weight	12.8kg without pedals (19.5 frame 3,220g)
Available Sizes	15.5, 17.5, 18.5, 19.5 (tested), 21.5 and 23-inch
Price	$4,799
Distributor	Trek Bicycles Australia www.trekbikes.com



THUMBS UP

- Fun all-rounder
- Excellent suspension
- Well considered component choice



THUMBS DOWN

- Wider rims would be nice
- Dropper remote would be better off underneath the handlebar

Article & Photography by John Hardwick

With their European based design team and long-term sponsorship of riders like Gunn Rita Dahle and Jose Hermida, Merida has always had a strong XC focus, and the new Ninety Six is pitched directly at this market.



Merida Ninety Six Team

For 2016 the Ninety Six returns to the Merida range, once again filling the role as their prime XC race dually. The original Ninety Six was a superlight 26-inch racer but the 2016 version will be offered with eight 27.5 or 29-inch wheels. Like a number of other manufacturers, they'll vary the wheel size to match the rider.

In this case, the small frame will come with 27.5 wheels while the large and extra-large will be 29er-only. The medium size will come in both options, so riders can choose according to their preference; 27.5 for lighter, stronger wheels with snappier acceleration and handling, or 29 inch wheels for their roll-over ability and momentum preservation once up to speed.

With the bigger wheels, the Ninety Six has 96mm of rear wheel travel (as you'd expect) but the 27.5 bikes offer 110mm of travel. Merida says the added travel compensate for the smaller wheels, improving traction and smoothing the ride. Regardless of size, all of the Ninety Six bikes run a 100mm travel fork.

Speaking of options, this platform will be offered at three different levels. We threw our leg over the range-topping Team model with the 29-inch wheel option, as this was the first model from the Ninety Six range to hit our shores. It features a totally blinged out build with a platinum price tag to match; you can kiss goodbye to $10K for this bad boy! You'll find the same frame geometry, suspension kinematics and styling on the two more affordable models.

At $4,799 the Ninety Six XT gets a full Shimano XT 2X11 groupset and Fox 'Performance' level suspension. Where the top-flight Team frame uses high-modulus carbon throughout, the XT uses mid-modulus carbon in the main frame with an alloy rear end. The base model Ninety Six 800 goes for $3,099. It's also Fox equipped with an SLX level spec and an all-alloy version of the Ninety Six frame. Our prime focus here is the Team bike but many aspects of its performance will transfer across to the more realistically priced models (we'll highlight the main points of difference as we go).

So what do you get for $9,999? Well the spec leaves









1. While the 1X equipped Team model has fewer cables than the other models, it's still a very cluttered looking setup.

2. The speed button; hit this when you really want to get up and go!

3. Even the thru-axle dropouts are carbon—the Ninety Six is an impressive piece of work.

little to be desired and it's more or less what their team riders would be on for a World Cup race. First up you get their CF5 frame, and gee it's a sweet piece of work. Just about every part of the frame is made from carbon; the front triangle, seat and chainstays, dropouts—even the top tube mounted swing link is made from this fantastic plastic. The bolt hardware is either alloy or titanium and the raw carbon frame finish saves precious grams too.

WEIGHTLESS WONDER

We often read claims of superlight sub-2kg XC frames but there's usually a catch; like they weighed an unpainted pre-production XXS frame with no shock and no pivot hardware. In this case the Ninety Six meets the claims; our sample weighed just 1,965g for the frame and shock (it was actually a few grams lighter than Merida states). As impressive as the weight is, we couldn't help feeling a little disappointed that you'll only get this amazing frame on the top-flight Team build.

Both of the more affordable models incur a sizable weight penalty, and that's before you factor in the heavier component spec. With its mid-modulus front end, alloy rear and carbon swing-link, the second-tier CF2 frame is approximately 500g heavier than the Team model. That means you're looking at a 2,500g frame on the XT equipped bike; that's still okay for an XC race frame but nothing to shout about. Skip to the all alloy 800 model and the frame jumps to 2,900g which is more trail bike weight than XC racer.

In keeping with current trends, all of the cables and hoses are routed internally. It's well thought out too, as there's a large window down tube near the bottom bracket to make cable replacement relatively easy. Fitting or removing the rear brake is still pretty involved, as you need to disconnect the hydraulic line, but on the whole Merida is easy to live with. Once you've passed a cable through the frame, the plastic covers lock everything down to minimise the chance of cable rattles.

While the Team bike comes with a single front chainring, there's a removable derailleur mount and a port on the down tube that's ideal for cabling up a Shimano side swing front mech. While most elite level XC riders are still holding off with height adjustable seatposts, Merida had the foresight to place a small hole at the base of the seat tube for a stealth style dropper—at least the option is there.

BRING ON THE BLING!

The Team drivetrain is mainly from the SRAM XX1 stable, everything except the all-black X01 cassette that is, but it's equal to XX1 in weight and quality anyway. SRAM also looks after the stopping duties with their new Guide Ultimate brakes (see P44 for a full review). While there are lighter more XC oriented brakes, the power and control offered by the four-piston callipers added some real confidence whenever the trail pointed downhill. If anything, the larger 180mm front rotor is overkill – at least for Aussie XC racing – and a 160mm rotor would have saved a few grams (well 34g to be precise).

The finishing kit consists of mainly house brand 'PRC' parts. They all worked well and some of the parts were impressively light; like the 93g alloy stem, 10g carbon seatpost collar and the 167g all-carbon seatpost for example. The bars came in at 190g which isn't overly light but at least they were 720mm wide, which is ample for XC use. Even the Prologo Nago saddle was a good choice; with titanium rails it weighs 228g but offers enough padding and flex to provide comfort on longer rides. About the only part I'd ditch is the 80g foam lock-on grips; I didn't find them comfortable but that's a matter of personal preference.

DT Swiss rounds out the component selection with their XR 1501 wheelset. While they're claimed to weigh 1,510g, the real life figure was 1,600g (that's with the RS1 specific front hub and rim strips). That's not light for a bike that's billed as a World Cup racer. With a 20mm internal width, they're also pretty narrow; that means you're more likely to suffer tyre squirm at lower air pressures. In this application it won't be a deal breaker, as you're probably going to have narrower tyres, but we'd still have preferred rims in the 23-24mm range.

For the asking price we can't help thinking that Merida could have stretched to a lighter more World Cup race worthy wheelset on their Team model, however the funds are absorbed elsewhere as we'll explain in a minute. On the positive side, the rims have a tubeless ready inner profile and the stock Maxxis Ikon tyres aired up with minimal fuss. The DT hubs come fitted with the upgraded 36T ratchet mechanism for quicker uptake in technical riding. While they aren't the stiffest wheels, the ride quality was good and they remained straight throughout the review where a sub-1,500g alloy wheel set would have probably needed some truing (sub-1,500g carbon would have been nice however).

BOUTIQUE BOUNCE

There's something about the RockShox RS1 fork. It's about 130g heavier than the less expensive SID World Cup fork but gee it makes the bike stand out. The massive one piece carbon upper assembly and upside down format just screams 'look at me!'

We've spent plenty of time riding this exotic fork on various bikes and it is a good performer. It lacks torsional stiffness when compared to the SID but the fore/aft stiffness is streets ahead of any regular XC fork. It's also better at sucking up the bumps when you're hard on the brakes—right where other forks seem to bind up. For me the torsional flex wasn't an issue but I've heard others complain about it. Personally I've never had a problem holding a line with the RS1 and I like the way it continues to soak up the hits when you're hauling on the anchors.

Looking at it objectively however, it's hard to justify the added cost of the RS1. Based on aftermarket pricing the RS1 sells for $2,300; that's about $1,000 more than a SID. It's money that could have been directed towards some lightweight carbon wheels but the end result wouldn't have looked as cool!

A key feature of the Ninety Six is the dual remote lockout; a single button turns it from a 100mm travel dually to a fully-rigid sprint machine. The Team model uses a hydraulic button to control the RS1 and Monarch XX rear shock. Aside from the two extra hydraulic lines, it integrates neatly with the left hand Guide brake lever, and being hydraulic it's close to maintenance-free.

"THE TRAVEL IS QUITE SUPPLE WHEN THE SHOCK IS OPEN. IT IS MORE ACTIVE THAN MOST RACE FOCUSED XC BIKES."

The two more affordable Ninety Six models have a single button dual lockout system too, so they retain similar functionality in this regard. The Fox system is mechanical, with one lever pulling a single cable that then pairs off to either end of the bike. Being mechanical, you may find yourself replacing the remote cables after a few rainy rides. Also, the combination of a dual lockout remote along with the left hand gear shifter makes for some very cluttered handlebars on the 2X equipped models.

SUSPENSION SEMANTICS

Merida's marketing talks about the importance of the leverage ratio in determining the ride feel of the Ninety Six. It has a regressive then progressive leverage curve; the 29er starts at 2.45:1 and goes to 2.55:1 before progressively ramping up to 2.4:1 at the end of its travel. This technobabble means the suspension sinks into the sag point where it's at its softest (around 20-25% travel) before gradually getting firmer to resist harsh bottoming. That's the theory anyway, but we feel the variation from 2.45 to 2.55 and then 2.4 is so minimal that it's basically a linear system. Most XC platforms tend to be linear and it works well in this application.

The travel is quite supple when the shock is open. It is more active than most race focused XC bikes, which often have their suspension tweaked to be firm initially at the expense of traction and comfort. The Ninety Six is constantly working over small bumps and it lets you focus on the important stuff—pedalling! While 100mm of travel isn't a lot, the bike uses it well and can handle bigger hits without bottoming harshly.

The marketing material from Merida also talks about the main pivot placement and how the new platform is optimised for 1X drivetrains. With a single 32 tooth chainring the bike does pedal reasonably well. It doesn't stiffen a lot when pedalling – again it remains active with minimal feedback through the drivetrain – but isn't excessively soggy under foot either. If anything it would pedal with more assertiveness with a 30 tooth chainring fitted, which is a reasonable popular option on 1X equipped 29ers.

So the Ninety Six pedals efficiently enough with a 30 or 32 tooth chainring but this changes when a double ring drivetrain is fitted. Both of the 2X equipped models use a 36 tooth big ring and the larger chainring reduces the anti-squat effect when pedalling. This will lead to a softer feel when you're hammering on the pedals. The same can be said for the 1X setup if you're using a 34 or 36 tooth chainring.

LOCKED & LOADED

It mightn't be the firmest pedalling XC bike with the suspension open (especially with the 2X models) but this all changes at the press of a button. The dual-lock feature gives you a fully rigid bike in an instant, and in the right situation the benefits can be huge. No matter how effectively tuned the anti-squat qualities are on a suspension bike, there's always some movement when you're really driving it up a climb or kicking hard out of a turn. In the context of an out-and-out XC racer this movement is undesirable.

Flick the lockout and the Ninety Six just begs to accelerate; it encourages you to get out of the saddle and absolutely smash yourself. And with the Team bike weighing just on 10.3kg (without pedals) it has some serious get up and go. As the dual-lockout is so easy to use, you quickly get into the habit of using it all the time. The RS1 and Monarch XX combo will still move if you hit something whilst they're locked; it's just the suspension action is stifled by the heavy low speed compression damping.

Merida also reworked the geometry with the new Ninety Six. When compared to the outgoing Big Ninety Nine the chainstays have shrunk from 450mm on to 445mm and the bottom bracket now sits 13mm lower. The seat tube







4. There's a large opening under this plastic cover; this makes it relatively easy to fish the cables and hoses through the frame.

5. A -17 degree stem and flat handlebar further enhances the racy stance of the Ninety Six Team.

6. More carbon trickery with the suspension swing-link; this appears throughout the Ninety Six range, right down to the alloy 800 model.

is a degree steeper (now 74 degrees) while the head tube has been trimmed a tad. Our medium frame had a stubby 100mm head tube; this along with the -17 degree stem gave the Ninety Six Team a very low front end—ideal for elite level XC racing. The lower-line models share the same frame geometry but come with a more casual -5 degree stem.

On the trail the Ninety Six proved to be really well balanced. The chainstays mightn't be exceptionally short but the ride feel is surprisingly agile. Some of this agility would be due to the low weight of our Team level test bike but the compact 1,120mm wheelbase (medium), well-proportioned reach and short(ish) 80mm stem also play a role.

Even with the downward sloping stem you remain centred on the bike and it doesn't have the nervous 'over the front' feel that some XC bikes do. While I wouldn't describe it as out-and-out playful, it's not a dull handling wagon wheeler, in fact most of the time I forgot it was a 29er—the Ninety Six just feels natural.

More than just a XCO race tool, the Ninety Six is a great bike for any fast XC-style riding; from marathons to racing your buddies on the weekend. If it wasn't for the distinctly race oriented cockpit on the Team model, it could happily pass as a fast trail dually. There's enough travel to provide a major advantage over any XC hardtail whenever the trail turns rough or points downhill, and when you punch the lockout button, you'll feel like you've got a rocket strapped to your behind! Some of this eagerness will undoubtedly be lost on the more affordable bikes (mainly due to the added weight) but the handling and suspension performance should remain relatively unchanged. In the top-flight Team mode, the Ninety Six is your instant ticket to the feel and speed of a World Cup racer—all you need is the legs and lungs to do it justice! MBA

Specifications

Frame	CF5 High Modulus Carbon
Shock	RockShox Monarch XX 96mm Travel
Fork	RockShox RS1 100mm travel
Headset	FSA Semi-Integrated
Handlebars	PRC Team Carbon Flat 740mm
Stem	PRC Team alloy 80mm
Shifters	SRAM X01
Front Derailleur	N/A
Rear Derailleur	SRAM XX1
Cassette	SRAM X01, 10/42 11-speed
Chain	SRAM XX1
Cranks	SRAM XX1 32 tooth
Bottom Bracket	SRAM PFBB30
Pedals	N/A
Brakes	SRAM Guide Ultimate
Wheels	DT Swiss XR 1501
Tyres	Maxxis Ikon 2.2
Saddle	Prologo Nago EVO
Seatpost	PRC Team Full-Carbon
Weight	10.3kg without pedals (Medium frame 1,965g)
Available Sizes	S, M (tested) L and XL
Price	$9,999
Distributor	Advance Traders 1300 361 686 www.merida.com.au



THUMBS UP

- Featherweight yet stiff and solid frame
- Dual suspension lock for race situations
- Balanced handling and agility



THUMBS DOWN

- You'll need to sell a kidney to buy the Team model
- The affordable models get much heavier frames
- Lighter wheels would have been nice

Article by Steve Hinchliffe | Photography by John Hardwick



A relative newcomer to the Aussie MTB scene, Mondraker certainly brings something unique to the table.

Mondraker Foxy XR

Whether or not other bike brands want to admit it, Spanish brand Mondraker is largely responsible for the long/low/slack geometry that many of us have been riding and loving over the last few years. They mightn't have been the very first manufacturer to push this bandwagon but they were certainly there at the start, and they've taken it further than anyone else in terms of pushing the boundaries of how far you can go. The Forward Geometry concept, as Mondraker calls it, is now standard fare across all their trail and all-mountain models. After making waves for several years in Europe, the Mondraker range has recently found Australian distribution.

For our first taste of what Mondraker have to offer we were sent a Foxy XR to throw at our local trails; it's their top alloy 'quiver killer' with 140mm of travel out back. The Foxy range is divided into three alloy and three carbon models; the two lower spec models in each material sport matching front and rear travel, however the top-level 'XR' models feature 20mm of extra travel up front. It's like a reverse mullet; party out front and business at the back, and this slackens the head angle by a degree over the matching collar and cuffs of its shorter travel brethren to deliver a more gravity oriented bias.

The complete bike weight for our size medium was 13.3kg without pedals, while the frame weight isn't unreasonable at 3,150g. Whilst there's potential to shed a little extra weight with upgrades if you wanted, the stock Foxy is light enough to not feel like a pig on the climbs. Prices for the Foxy range start at $4,315 and go up to $10,217, with our alloy XR selling for $5,891.

I really like the shapes of the Foxy. It's more lines and angles than curves, which lends some muscularity to its appearance despite the fairly skinny rear triangle. The humpback top tube seems to polarise opinion, but it certainly stands out from



the crowd and creates a visually continuous line from the head tube to the rear dropouts.

It has all the standard inclusions for a bike of this type, including both internal and external dropper post routing, ISCG tabs for a chain guide and room for a water bottle. It can even handle a front derailleur, although the 2016 Foxy XR comes 1X11 equipped. Some people might bemoan the lack of internal cable routing, however the underneath the down tube setup with quality metal guides looks clean, is easy to service and adds a bit of protection for the frame—I'd much rather crush a cable than dent the down tube. The threaded bottom bracket will elicit a sigh of relief from mechanics, the pivot hardware is all nicely keyed into place and there's a very effective little mud flap to stop the rather exposed rear shock from getting covered in mud by the back wheel. Overall I think the Foxy is a nicely finished and uniquely attractive bike.

BACK TO FORWARD GEOMETRY

Because it's such a fundamental component with most Mondraker bikes, I wanted to go over the concept of Forward Geometry. At its most basic level, it involves making the front of the bike (i.e. ahead of the bottom bracket) much, much longer than on a traditional bike, and then using a very short stem to keep the overall length from saddle to handlebar about the same. To give you some numbers, my personal ride is a Norco Range; in a large size the reach (horizontal distance from the bottom bracket to the head tube) is 433mm, which is a fairly average figure for this type of bike. On a large Foxy however, the reach is 501mm and even our medium test bike is still a whopping 478mm.

This extra length also adds considerably to the overall wheelbase; our medium Foxy has very close to 1,200mm between the wheels. When it was first developed, Mondraker's Forward Geometry bikes came with a 10mm stem that sat up on top of the fork steerer, almost like a motorcross bike. It looked very strange and added quite a bit of height to the handlebar position, so they've since moved to a 30mm stem with the 10mm available as an option.

So why bother with all of this geometric chicanery you may ask? Mondraker realised that a great many riders like going downhill fast and that climbing is merely a means to that end; Forward Geometry was born from this realisation. Longer wheelbases increase your stability at high speed, and keeping your weight more

1. The shock is right in the line of fire from the rear tyre, so Mondraker supplies a mini fender to keep the mud off.
2. All sizes come with a stubby 30mm stem and Mondraker also offers an optional 10mm stem that places the bars right above the steerer tube.
3. The Zero suspension is a short link four-bar system, not entirely unlike a DW Link or Maestro system.







rearward in the wheelbase enhances this trait even further in rough terrain.

Of course there are other ways to gain stability when things get hairy; you can slacken the head angle, or drop the bottom bracket height for example. Everything in MTB designs has its pros and cons however. An exceedingly slack head angle will stretch out the front centre but will also make the bike steer very slowly, and at low speed it'll tend to drop excessively into corners. A very low bottom bracket will add descending security but you'll tend to smash your pedals into every pebble whilst climbing. We've seen numerous combinations of these parameters being used on new-school bikes over the last few years, and for Mondraker the best option was to stick with a fairly conservative head angle and bottom bracket height whilst going hammer and tongs at the front centre length. This is what gives their bikes a truly distinctive ride quality.

FAST FORWARD

It's quite strange when you first sit astride the Foxy. You look down and see the fork crown in front of your handlebar; unless you're used to downhill bikes it's a view you may have never seen before. Apart from the visual strangeness however, the first few pedal strokes on the Foxy XR felt particularly normal. Even with the very stubby stem there's still obviously plenty of room to move fore and aft in the cockpit, so as I cruised up the fire road towards the head of my local singletrack descent, I couldn't see what all the fuss was about.

I accelerated into track and hit the first few turns … whoa! The super short stem made the Foxy react so quickly to steering input that I nearly oversteered off the trail. As the gradient became steeper and the pace higher, the front wheel wanted to push a straight line instead of following my instructions to turn. I quickly drew to a halt and rode back to the top.

After considering and collecting my thoughts for a few moments I went in for round two, but this time I was prepared. I pedalled up to speed and armed with the knowledge from my first run, I slammed my inside hand down to push through the first right, left then right combo. This time it came together and the Foxy blasted through the chicane with a level of precision and authority that left me a little shocked.

As my faith in the bike grew, I continued to push harder and by the end of that first descent it became clear to me that Mondraker is on to something quite special. There might be a very short adjustment period when you first ride the Foxy, but it won't be long until you feel like you've been riding it all your life.

With Forward Geometry your hands sit much further behind the front wheel than with a traditional setup, so you need to keep noticeably more pressure on your hands than normal to weight the front tyre and maintain traction. This automatically puts you in an aggressive 'attack' position, so you really feel like you're driving the bike from the middle, rather than hanging off the back. The long front centre means you can do this without fear of going over the bars on the first baby head or steep roll-in.

Overall it's hard to imagine how much more descending confidence the Mondraker gives you without actually trying it. The expression 'a downhiller's trail bike' has been used before, but nothing I've ridden fits that description better than the Foxy XR. The long cockpit lets you fine-tune the weight distribution between front and rear wheels, so you can easily find that Goldilocks point of not too far back, not too far forward, but just right. The faster and gnarlier you go, the more Forward Geometry makes sense, and the bigger your grin will be at the bottom.

Of course there is a compromise here; at low speed and in tight trails there's no escaping that very long wheelbase, so you need to take a wider arc around turns and steer the Foxy more than you lean it. That said, it's much more manageable than a similar wheelbase with a shorter reach and slacker head angle, and the relatively short chainstays allow you to easily lift the front wheel and tighten your line as you pedal out of turns. The short back end also keeps the Foxy feeling agile and playful when you want, or need, to leave terra firma, so to some extent it doesn't feel as long as you might expect.

> "IT'S QUITE STRANGE WHEN YOU FIRST SIT ASTRIDE THE FOXY. YOU LOOK DOWN AND SEE THE FORK CROWN IN FRONT OF YOUR HANDLEBAR; UNLESS YOU'RE USED TO DOWNHILL BIKES IT'S A VIEW YOU MAY HAVE NEVER SEEN BEFORE."

Climbing on the Foxy is relatively effortless as long as the gradient doesn't get too steep. Once it does, the Forward Geometry works against you a little. On a couple of technical climbs, I simply couldn't get my weight far enough forward to prevent the Foxy from wanting to loop out, whereas my 'normal' bike felt firmly planted—there's no free lunch in the MTB world. It's certainly not all doom and gloom though, because when things aren't super steep, the long cockpit allows you to easily manage fore/aft balance to keep both wheels firmly on the ground.

Mondraker's Zero suspension also does a great job of hugging the trail surface to maintain traction without undue pedal feedback. The more traditional bottom bracket height allows you to pedal over and through rocks without constant ground strikes, which is refreshing given that a Foxy rider is almost certainly going to earn their turns.

ZERO EQUALS SOMETHING

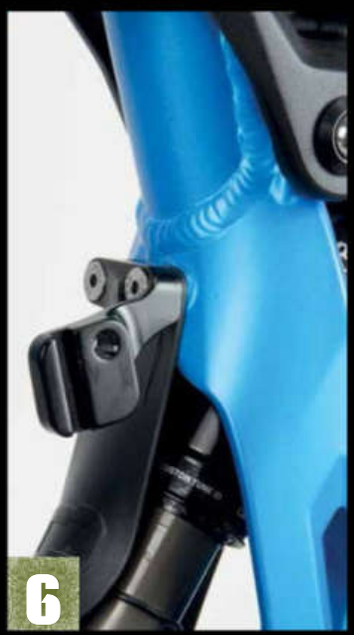
On the suspension note, the Foxy uses Mondraker's own take on a short link four-bar suspension. It's dubbed 'Zero', which is supposed to be the amount of influence that braking and pedalling have on its performance. Whilst that might be stretching the friendship a little, it does nonetheless do a great job of getting the rear wheel up and over whatever presents itself without feeling sluggish, and it does equally well at absorbing quite sizeable impacts.

I set it up with 30% sag and found it gave a great balance. With the three compression settings on the Float shock, the open setting was nice and forgiving for the downhills, the middle mode offered a firmer and more poppy ride that was still compliant, while fully closed offered a solid pedalling platform. The funny thing was, no matter what trail I rode, and whether I was in the soft or middle setting, I consistently used full travel—the O-ring was always on vacation and off the end of the shock. Despite this, I can't ever recall feeling the suspension bottom out, even when taking no-transition hucks.

This ability to consistently use full travel without feeling like you have gives the Foxy's rear suspension a bottomless feel and makes the 160mm









4. Neat and tidy welds feature throughout.
5. Not only is the geometry unique, the profile of the main frame creates a rather individual look too.
6. While the 2016 spec sees the Foxy XR running a 1X setup, the frame can be fitted with a front derailleur mount if you prefer a multi-chainring setup.
7. There's plenty of room for meaty rubber on the Foxy.

fork on the XR models a valid choice. I also spent some time on the test bike with a 140mm fork. In this guise it maintained most of its descending swagger whilst simultaneously getting a small boost to its climbing cred.

In terms of general spec, there's really not much to report except that everything works pretty well. Our demo bike was a 2015 model that was kitted out as per the 2016 spec, all except the wheels, brakes and fork that is. The new Foxy XR gets a Pike up front, trades the Formula brakes for SRAM Guide R stoppers and the Mavic wheels are exchanged for DT Swiss M1900s. In either case you'll get decent brakes but the rims are pretty narrow—when are they going to stop making road bike width rims and fitting them to mountain bikes? The Reverb seatpost is great option and for 2016 the remote moves to under the bars on the left hand side—right where you want it on a 1X equipped bike.

So what do I think of Mondraker's Foxy XR and its strange Forward Geometry? I think it's a very cool, very fast and very fun bike that allows you to descend fast enough to scare the crap out of yourself whilst simultaneously egging you on to go faster, and watching your back when you when you overstep the mark. It's not the best spec'd or lightest bike for the money but it's not a cookie-cutter bike either, and props must go to Mondraker for challenging traditional bike design and coming up with a winner.

For those who ride a lot of tight trails, or those who love steep and technical climbing as much as dropping into a brake-free chute, its flaws may outweigh its strengths. However, if you like to hit steep or rough trails with conviction, the Foxy will have you descending faster and make all of your riding more fun. Foxy indeed… MBA

2016 Specifications

Frame	Stealth EVO Alloy
Shock	Fox Float Evol Performance 140mm Travel
Fork	RockShox Pike 160mm travel
Headset	Semi-Integrated sealed
Handlebars	Mondraker Riser 740mm
Stem	Mondraker Alloy 30mm
Shifters	SRAM X1
Front Derailleur	N/A
Rear Derailleur	SRAM X1
Cassette	SRAM X1, 10/42 11-speed
Chain	SRAM X1
Cranks	Race Face Affect 30 tooth
Bottom Bracket	Race Face
Pedals	N/A
Brakes	SRAM Guide R
Wheels	DT Swiss M1900
Tyres	Maxxis High Roller/Ardent
Saddle	Fizik Nisene Mg
Seatpost	RockShox Reverb Stealth
Weight	13.3kg without pedals (Medium frame 3,150g)
Available Sizes	S, M (tested) L and XL
Price	$5,891
Distributor	Flow Bikes 0432 427 895 www.flowbikes.com.au



THUMBS UP

- Mega fun descender, especially when it's steep
- Loads of cockpit length, even with a 30mm stem
- Great suspension performance



THUMBS DOWN

- Long wheelbase is restrictive on really tight trails
- Tough to wrangle up really steep climbs
- Narrow rims

Article by Steve Hinchliffe | Photography by John Hardwick

It's not a fatbike but it's far from 'normal' too; the Specialized Fuse was our first real encounter with the new generation of 'plus sized' bikes.



Specialized Fuse Pro

It's a crazy time in mountain bike land. We only just got over the acceptance curve for 29ers, then fat bikes came along and now 27.5. All this came in a short span of years, after literally decades of 26-inch tyres with relatively consistent widths.

We've learnt that bigger wheels can be good in some ways while wide tyres and rims can really change the ride experience. Both the changes in width and diameter have been aided by weight and strength advances that have come from new materials and better manufacturing processes.

So, it was only a matter of time (and very little time at that) before we were destined to meet the hybrid of hybrids; the middle size wheel with a not so skinny but not too fat tyre. There's no common name for this yet; some call it 'plus' width while others call it semi-fat and Specialized has dubbed theirs 6Fattie in reference to the 650b rim and the larger than traditional tyre.

Specialized has jumped into this segment with both fattie sized feet. Our Fuse Pro is the top of three Fuse hardtails and the Stumpjumper FSR dually also has four fattie-sized models within their 2016 Australian line up including both alloy and carbon options. All have adopted the new 'Boost' standard hubs (that's 110mm wide up front and 148mm on the rear) along with three-inch wide tyres. The rims are broader too, measuring at least 38mm wide internally and naturally the forks and frames grow in girth to accommodate the bigger wheels. Other than the white water rafting sized donuts of rubber, the remainder of the 6Fattie bikes look relatively normal.

FAT GAINS

So what's the point of these big tyres? These semi-fat newcomers aim to provide benefits in four main areas; traction, floatation, puncture resistance and impact absorption. The first is pretty obvious; when combined with a wider rim, a big volume tyre lets you run lower pressures and this increases the footprint size—more rubber on the trail equals better grip. Greatly reduced pressures – 21psi is the maximum that Specialized recommends – also allow the tyre to mould around trail irregularities, again improving traction.

When the terrain turns is soft,



the big footprint means you're more likely to float rather than bury yourself. Instinctively you may think that fat tyres are slow rolling, but on soft terrain such as sand, they actually offer less rolling resistance.

Wide tyres have always been used to reduce the risk of a pinch flat punctures. Add some really wide rims and the likelihood of flatting reduces further. Finally, the large air filled tyre acts as an inflatable cushion—big, soft and pillowy!

Running such large rubber also increases the outer wheel diameter. The 27.5x3.0 wheels measured 730mm; that's only 10mm shy of a 29x2.25 cross-country wheel (740mm). A regular 27.5 hoop that's fitted with a 2.35 tyre stands at 710mm, so on the trail, these new plus-sized wheels have similar roll-over characteristics to a 29er.

Why don't we just run big tyres on everything, all the time? Weight is a major factor for one, and it's not just the tyre weight we're talking about. To perform as intended, wide tyres need appropriately wide rims, and these add further to the overall package weight (unless you throw truckloads of money at carbon rims that is).

Our Specialized 6Fattie tyres came in at 980g each. This figure surprised us; as it's about the same as a sturdy 2.35 all-mountain tyre and nowhere near as portly as a true fatbike tread. At 2,160g for the pair, the alloy wheel set is on the hefty side but again it's not that terrible. Overall the wheels carry a bit over a one kilogram weight penalty when compared to a 'normal' 27.5 wheelset of equivalent quality—definitely enough to feel when riding but still light enough to allow for reasonably normal handling characteristics.

Rolling resistance is the second potential drawback. If you're running really low air pressures, the 3.0 tyres aren't going to roll as well on smoother hardpack trails (although it could be a different story if the trail is particularly soft or very rocky).

So the 6Fattie or 'plus' size isn't going to be adopted by pure cross-country riders. The width and potential for traction could hold some appeal with gravity enduro or DH riders, the casing on these tyres isn't the toughest—truly 'gravity-worthy' 3.0 rubber will weigh a lot more. Besides, gravity oriented riders usually have plenty of bounce in their suspension and mightn't appreciate the additional squish from plus sized doughnuts.

However, the new size could sit nicely with those who just go mountain biking because it's fun. It also has some obvious benefits for those who are looking for an off the beaten track adventure. Specialized is only offering the 6Fattie sizing on their trail oriented Stumpjumper FSR and Fuse models, which suggests they have a similar vision of where these semi-fat bikes belong.

1. Our top-spec Pro model comes with carbon cranks and a cool looking SRAM direct mount chainring.

2. Some very funky workmanship in the drive-side chainstay. This helps maintain chainring and tyre clearance whilst allowing for short 430mm chainstays.

3. Another handy SWAT addition; there's a chain tool and a spare joiner link tucked away in the steerer.

4. Their own-branded dropper post remote is under the bar on the left hand side—right where you want it on a 1X equipped bike.

















5. Smoothly finished welds contribute to the slick overall finish.

6. The SWAT gear is fantastic; the bottle cage has a handy multi-tool stowed at the back—it's always there when you need it.

7. The Roval rims measure 38mm between the bead hooks, which isn't very wide given the three-inch rubber that the 6Fattie runs.

8. Even with the 3.0 tyres the frame clearance is massive.

PICK A PRICE

Our Fuse was the top-end 'Pro' model. It's equipped with all the bells and whistles and sells for $3,999; that's a fair whack for an alloy hardtail. Thankfully the two more affordable Fuse models retain all of the main defining features; they use the same frame, boost axles, three-inch wide tyres, dropper posts and single ring drivetrains.

The Fuse line kicks off with the Comp at $2,199. For this you get a Suntour Raidon fork, TRP hydraulic discs, a TranzX dropper post, SRAM X.7 and X.5 gears with a 1X10 drivetrain. The WTB Scraper rims are actually wider than what you get on the Fuse Pro; they measure 45mm internally, which should offer better support to the tyres than the 38mm rims that we rode. No doubt the Comp will be a good deal heavier but the main features remain.

Sitting in the middle ground is the $2,999 Fuse Expert. Again it's a 1X10 set up but with SRAM GX shifters and the fork is a Manitou Magnum Comp. The brakes are SRAM DB3s with a four piston front calliper—a worthwhile upgrade over the TRP brakes used on the Comp.

With our Pro model, the spec was far nicer than what we're used to seeing on an alloy hardtail. The Reba fork and the wide-range 11-speed SRAM X1/X01 drivetrain made us feel right at home, as did the admirably powerful SRAM DB5 brakes. Carbon cranks add further bling and the Specialized Command Post has one of the tidiest under-bar remotes in the business. It's even kitted out with a SWAT bottle cage/multi-tool combo and a SWAT chain tool that's hidden inside the steerer tube. With this spec, our test bike weighed 12.4kg without pedals; a respectable figure given the tyre size and included dropper post.

COMMON GENES

No matter which Fuse you select, the frame is built with the same 'M4 Premium' alloy and utilises the same design features. It's a well-made and surprisingly light frame. Our large weighed 1,990g; there plenty of regular XC oriented 29er frames that come in around that mark, so the Fuse could build into a respectably light machine if you wish.

The major welds are smoothed out for a seamless look and the tube shapes are both purposeful and complex. Eyes are immediately drawn to the distinctive drive-side chainstay; it splits into two arms as it runs behind the chainring and provides a little extra clearance. It combines with the wider 'boost' spacing of the drivetrain and allows Specialized to run impressively short 430mm chainstays whilst retaining good clearance for the three-inch rubber.

The geometry is quite progressive for a hardtail; the short rear end combines with a long reach and a slack 67-degree head angle. From a medium size and up, the Fuse ships with a 120mm travel fork and short stems with 750mm wide bars feature throughout. Roll these figures up with the standard issue dropper post and the Fuse is ready to get down and rowdy from the get go. The question is how does all this chubby theory translate on the trail?

In short, this bike is great fun! The Fuse is 100% trail bike, and the big treads really change the entire ride experience from anything you've ridden before (assuming you've never fat-biked). I think it's important to set the context here for comparisons sake; my normal ride is a 120/100mm travel 29er dually that sits at the non-race end of the cross-country spectrum—I typically run regular 2.2 inch knobby tyres. It's a pretty versatile bike that's comfortable on all kinds of trails. I'll happily use it for a 100km marathon event and it's a good climber, but it's also confident enough to tackle any trail that I have the ability and bravado to ride. The Fuse can

do all these things too, but without the pivots and rear shock—it just weighs a bit more and rolls slower.

Prior to riding the Fuse I'd heard people going on about how the big tyres make it similar to riding a shorter travel dually. There are some common benefits, but the way they are arrived at is vastly different—in reality they are poles apart.

In terms of the similarities, the big bag tyres do take the edge off the rough trails. You get less chattery feedback though the hands and saddle, but hit any decent sized square edge and you're instantly reminded that the Fuse is still a hardtail. Sure, it's not a brutal stinging hardtail, but the wheels still get bounced around where a dually just sucks up the hits.

On the flip-side the traction is absolutely unreal; you'll never want to ride a skinny tyred bike on loose trails again. Run at 15psi they conform to the trail like melting cheese on nachos. Point the Fuse up a loose sandy fire road or technical singletrack and it's a dead set octopus. The long front end gives you room to find your balance point and the 30/42 first gear allows you to stay seated up the steep stuff. From there the amazing traction does the rest, allowing you to pedal up just about anything. The overall weight ensures the Fuse isn't a spritely XC race style climber but you'll still be clambering up the trickiest slopes when all of your skinny tyred riding buddies are off and walking.

LIGHT THE FUSE

Point the Fuse downhill and the ride isn't smooth like a mid-travel dually, not by any stretch, but there is more than one way to tame the trail. The big tyres give you such a confidence boost that you'll be ploughing into things and letting loose in a reckless manner. It is still possible to pinch flat when riding at speed through the rocks (we did), but convert the tyres to tubeless and it will be very tough to stop. You still bounce and pinball around hardtail-style on rough trails but the inertia and cushion provided by the large air volume tends to get you through some hairy situations. Flick the dropper post remote and the Fuse encourages you to descend like a loon—it quickly becomes addictive! Overall it's a really capable descender, just in a different way to what we're accustomed.

> "THE LEACH-LIKE GRIP OFFERED BY THE BIG AND BOUNCY LOW PRESSURE TYRES ALLOWS YOU TO PITCH THE BIKE INTO TURNS AS HARD AS YOU LIKE."

While it will handle sand and snow better than a traditional MTB, these conditions remain the domain of the true fatbike. Rather, these plus-style bikes beg to be ridden hard on the kind of trails that you'd usually ride. In this context the Fuse did have its quirks and there was a bit of a learning curve when it came to riding it.

The leach-like grip offered by the big and bouncy low pressure tyres allows you to pitch the bike into turns as hard as you like. However, once your confidence grows and you really begin to push things, you'll notice a slightly soft and disconnected feel through some turns. This feeling is amplified if you drop the tyres into the low teens. We feel that the rims on the Fuse Pro are a bit too narrow and this introduced more tyre squirm than we'd like.

With 38mm between the bead hooks, the Roval rims aren't much wider than many new generation all-mountain rims that are designed for regular 2.3 inch tyres. A rim that measures 45-50mm internally would offer better support for the 3.0 inch tyre and reduce the cornering vagueness that I encountered. This would also allow you to further drop the tyre pressures and extract more flotation out of the Fuse for true sand and soft condition riding. This comment won't apply to the lower priced Comp and Expert models, as they come standard with 45mm wide rims.

The next quirk is the bounce; the big tyres actually bounce like an inflated ball. Instead of pedal bob, you get tyre bob when riding down the trail! With such a large volume inside, tyre pressure becomes an absolutely crucial factor in setting up the bike. Launch off a drop or slam into a decent sized object and the tyres compress before rebounding back, but unlike your fork there is no damper to control the rebound. Go too soft and the tyres feel mushy and squirm excessively, too firm and you'll get bucked around like a rodeo rider. Get yourself a decent pressure gauge that reads at low pressures and tune away; trial and error with a little persistence will allow the Fuse to reach its true potential.

One thing we really liked was its versatility. As mentioned earlier, the outer diameter of the 6Fattie wheels is close to that of a traditional 29er. Because of this, the frame and fork will easily accept a regular set of XC wheels. Make the swap and the Fuse instantly transforms into a lightweight, mile-munching marathon bike for less demanding terrain. The only catch is that you probably won't be able to use your existing 29er wheelset due to the new 'boost' hub spacing.

Although the Fuse was far removed from the kind of bike I typically ride, I couldn't help but take quite a shining to it. It moves along more rapidly than its profile suggests, and I didn't expect to enjoy going uphill on it as much as I did. Of course smashing it on the way back down never lost its novelty either. For banging around on technical terrain, the Fuse crams a silly amount of ability into a durable and simple package. MBA

Specifications

Frame	M4 Premium Butted Alloy
Fork	RockShox Reba RC3 120mm travel
Headset	Sealed Bearing Direct Fit
Handlebars	Specialized 7050 Alloy Flat 750mm
Stem	Specialized 3D Forged Alloy 60mm
Shifters	SRAM X1
Front Derailleur	N/A
Rear Derailleur	SRAM X01
Cassette	SRAM XG, 10/42 11-speed
Chain	KMC X11
Cranks	SRAM S-2200 Carbon 30 tooth
Bottom Bracket	SRAM PF30
Pedals	N/A
Brakes	SRAM DB5 Four Piston
Wheels	Roval Alloy 27.5 Tubeless Ready 38mm internal
Tyres	Specialized 6Fattie Ground Control 3.0
Saddle	Body Geometry Henge Comp
Seatpost	Command Post IRcc
Weight	12.4kg without pedals (Large frame 1,990g)
Available Sizes	S, M, L (tested), XL and XXL
Price	$3,999
Distributor	Specialized Bicycles Australia www.specialized.com



THUMBS UP

- Traction!
- Simple and tough machine
- Goes up and down equally well



THUMBS DOWN

- Heavy and slow feeling on smooth, flat terrain
- Spare tyres and tubes hard to come by (for the moment)
- Comparatively pricey for the spec

Article & Photography by John Hardwick

Sand Surfin'

Soft dry sand is the bane of many mountain bikers but it doesn't have to be your failing.



"SUSTAINED SAND RIDING IS HARD WORK, AND A GAME OF CONTROLLED POWER DELIVERY AND WEIGHT SHIFTS."

Unless you're a fatbike fanatic who goes beach adventuring, the prospect of 'railing some sweet sand' won't be an appealing one. However, many areas in Australia have sandy soils and with summer on the way, learning how to survive a soft sandy boghole should be a priority. Sand mightn't be fun but crashing because of it is even less fun!

As with most aspects of mountain biking, looking ahead is a key point. If anything this is more critical on the sand, as any last minute directional changes won't be graceful. Scan ahead and shoot for any shallow or compacted sand. Damp sand is always a good option too and sometimes the very edge of the trail will be slightly firmer. Utilise vehicle tracks when you can, as they offer an already compacted base. Whatever route you select, make sure it's a relatively straight one and avoid abrupt steering input wherever possible.

MOMENTUM MATTERS

Some decent momentum will definitely help. If it's only a short section, select a largish gear and get a good run-up before you hit the soft stuff. As erosion washes the trail surface downhill, you typically encounter deep sand at the bottom of a hill. A lucky coincidence in many ways, as you can use the preceding downhill to gain a run-up, although hitting deep sand at warp speed won't be pretty if your technique is poor. Raw momentum won't work if the entire trail is sandy, so a more conservative gear choice is required and you'll be totally reliant on developing good technique.

SIT BACK & DRIVE

So what is the best technique? Soft trails generally demand a more rearward weight bias. This keeps your front wheel light and on top of the sand—the last thing you want to do is bury your front wheel when you're travelling at speed. If the sandy patch is on a descent, simply get your weight back, relax your arms and hold a straight line—gravity should do the rest.

Sand accumulates on the flat, so it's likely that you'll need to pedal to maintain momentum. Your gear selection is important; go too low and your back wheel will spin and bury itself. Too big a gear and you will run out of puff. Aim for a gear that you can 'get on top of' and put in some powerful pedal strokes. In addition to maintaining momentum, these power strokes will serve to unweight the front wheel and keep it riding on top of the sand. It's a physically taxing approach but if you don't maintain momentum, you'll sink and be off the bike before you know it.

RELAX

As you pedal, position your sit-bones towards the rear of the saddle and drive your weight rearwards. Keep your arms relaxed with a light touch on the bars. The combined effect will keep you moving and offer the best chance of success.

At first, hitting soft sand at pace can be unnerving but do your best to stay cool. Tensing



You don't need a fatbike but if your trails commonly have deep sandy patches, selecting some larger volume tyres will help you to stay afloat. Also run wide rims if you can, as these will allow you to lower your tyre pressures without suffering from excessive tyre squirm.



Avoid placing too much weight over the front wheel or this is likely to be the result!

up will be counterproductive; you'll start gripping the bars rather than letting the front end stay light. As with any technique, practice is the key so start small and work your way up. Test yourself on short sections with moderate speed to get a feel for it.

One of the hardest things about riding sand is its unpredictability. Even if you keep the front end light and hold a straight line, a soft patch may suck you in and send you astray. Don't fight it if this happens. Relax as much as possible and ride it out. With luck you'll pull through with enough momentum to forge onwards.

Sustained sand riding is hard work, and a game of controlled power delivery and weight shifts. The aim is to get enough traction with your back wheel without bogging down while keeping your front wheel riding high on the sand. Much lower gears are required and it becomes pretty hard to steer once your momentum is low. At least any low speed crashes will end with a soft landing!

Negotiating deep sand is never going to be a particularly enjoyable part of mountain biking but in many areas it is a necessary evil. The right technique, some confidence and a relaxed approach will make sand less daunting and much safer. MBA

Sandy Corners

We've talked a lot about the importance of holding a straight line, but what are you supposed to do if you're faced with a sandy corner on the trail? Turning on the sand requires quite a different approach. For hard corning on the dirt we'd usually suggest weighting the front end to drive the tyre into the trail and stop the front wheel washing out. Do this on soft sand and the front will dig in and pitch you over the bars.

Initiating a turn is best done from the rear of the bike. Don't turn the bars radically, instead lean the bike and maintain a more centred or rearward weight bias. Lean the bike by extending your inside arm and poking your opposing elbow out. Ideally you want to push the back end out and minimise the turning forces on the front end—steer with your rear in other words.

Constant momentum is another key. Don't brake heavily as the forward weight transfer will again bury the front wheel, leaving you with no momentum when exiting the turn. Aim to maintain a pace that can be sustained right through the corner—all the way from the entrance to the exit.

If the sand is just an isolated mid-corner patch, adjust your line so that you instigate the turn early, straight-line the sand and complete the turn as you exit.



Article & Photography by John Hardwick

Finding Inner Peace

With internal routing, cable replacement requires a different approach. Here we investigate some strategies that can minimise the frustration and get you back on the trail quickly.

These days virtually every mid-to-upper-end MTB comes with internally routed cables. Hidden cables have introduced an element of the unknown that deters otherwise mechanically proficient riders from doing basic maintenance. If you're lucky, your frame may have built in pipes that guide the new cable straight through. However most don't and sometimes the exit ports are quite small, so it's a bit like trying to thread a needle whilst blindfolded. Sure, you can offload the problem onto your local bike shop, but sometimes it's good to do your own work—especially when you need to replace a cable the night before a big ride.

While internal cabling can test your patience, there are a number of tricks that can make the task far easier. Some techniques will work better than others; there's no one solution for all. Still, arming yourself with this arsenal of ideas will give you some direction. Try them out and see what works best on your bike. You may find one method works on the down tube but not the chainstay for example, so keep your options open. Once you find a reliable strategy, cable replacement can again be a straightforward task and your bike will run better as a result.

ROCKSHOX BARB

This is our favourite hassle-free technique when the old cable is still in place and runs with a continuous length of outer casing from the shifter to the derailleur. The only catch is that you'll need to find yourself a double ended barb like the ones that are supplied with a RockShox Reverb dropper post. If you don't own a Reverb, ask around at your local bike shop and you may get lucky—they're super handy to have.

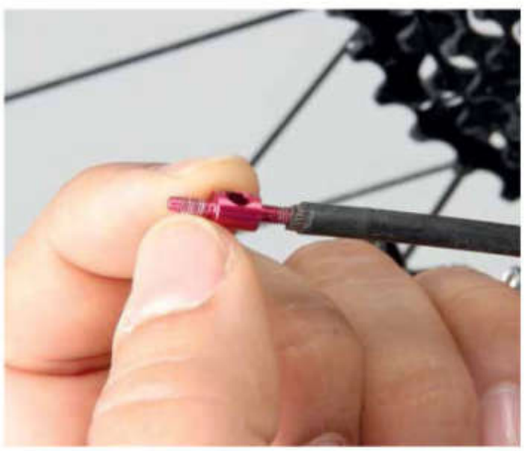
Start by removing any restrictive entry ports where the cable enters the frame. Then undo the inner wire at the derailleur end and pull it through the outer housing. You may need to cut the end part off as it's often squashed and frayed.

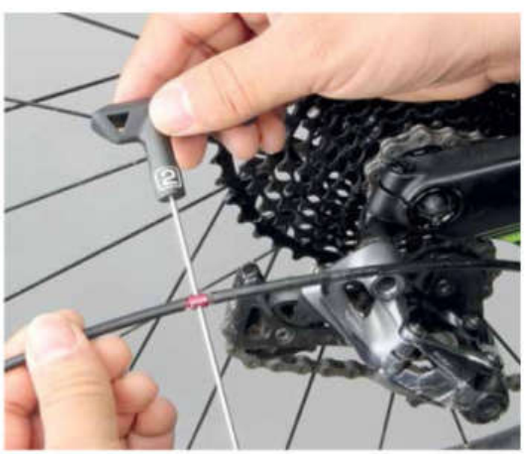
With the inner wire removed, partially thread the barb into the old outer cable. Once it starts to wind itself in, place the new length of outer cable on the other end of the barb. Insert a 2mm allen key or something similar into the hole that's in the middle of the barb. Hold both cables steady and turn the barb; the opposing ends will thread their way in and link the cables together.

Once you're sure the barb is securely joined at both ends, slowly and steadily pull the old cable through whilst simultaneously pushing on the new cable. If the cable gets snagged at any point, push it back and forth to free it—don't pull or you may dislodge the barb.

At a pinch, it may be possible to craft your own joiner from a regular 2mm (14 gauge) spoke. Keep the threaded end part and cut a 5-10cm length. The threaded end will wind snugly into one side of your gear cable while the other will just push in. A wrap of tape can help to hold it together but don't make it too bulky or it may snag on the way back through the frame.

With the new cable all the way through, cut it to length, fit the end caps and slide a fresh inner wire through. This technique also works well with hydraulic lines—after all, that's what RockShox makes the barb for.













MAGNETS

This technique is handy if there's no existing cable in the frame to act as a guide. It won't work with hydraulic hose or stainless steel inner wires, but for other cables a really strong magnet can help. Neodymium rod magnets are a good place to start and they'll work best if they're small enough to fit inside your cable exit points. As with the previous technique, removing any covers to reveal the largest possible exit window will make the job much easier.

Sometimes you can guide the outer casing through first but in other cases it may be easier to pass the inner wire through and then use it to guide the outer casing. You may as well try the outer casing to begin with—it's the better option if it works. Slip it into the frame and push it along until the end draws level with the exit port. Shine a torch into the hole and you should be able to locate the cable housing. Now place the magnet into the window and you should be able to snag the line—don't drop the magnet whatever you do!

If your magnet is small and hard to hold onto, you can tape it securely onto the end of a screwdriver to provide a longer reach. If it's hard to wrangle the cable through the exit port, put a bend in the last 20mm of the housing and try it again. Also try twisting the cable housing around when it's inside the frame. If your magnet is strong enough, it won't be hard to catch the cable and guide it through.

Another tactic is to use a small hook to pull the cable out. This works best when you're fishing for an inner cable. The hook can be fashioned from a spoke or even a paper clip. Use the magnet to grab onto the cable and bring it close to the window, then guide it through with your hook.

Park IR-1 Kit

If playing with hooks and dental floss doesn't sound like your thing, Park Tools makes a kit that's specially designed for internal routing jobs. It includes a range of magnetic connector lines and cable fittings that will handle all manner of cables and wires for electronic gear setups. It's a brilliant piece of equipment but it will set you back around $140.



DENTAL FLOSS

Last of all is the dental floss technique. Unravel a stretch of regular floss or string that's greater than the distance between your inlet and outlet points. Fit your vacuum cleaner with a narrow blade attachment and place over the frame exit point. Hold it snugly up to the frame and the vacuum should draw the floss straight through the tube.

This won't work in every case; sometimes you won't get good suction through the frame while other times the airflow won't take the floss exactly where you want it to go. In this demonstration, it worked first time every time on the chainstay but wouldn't work on the main frame (we found the magnet easier on the down tube).

Once you've got the floss through, it can be tied to a RockShox barb to pull the outer cable through. Alternately, you can attach it to the inner wire using an alloy cable end. Cut the tip off the cable end and open it up so it slides right over the inner wire. Slip the floss underneath and crimp the alloy end to hold the floss in place. Now you can pull the wire straight through and use it to guide the outer housing. MBA





Winner!





LEIGH PRIVETT

Leigh's bike may look like a bit of a junker (sorry Leigh) but it has a long and rather amazing history. It's a 1997 special edition GT Zaskar LE. Out of the factory it was assigned straight to famous Canadian mountain bike racer Roland Green; at the time he was the reigning world XC champion. Roland was quite a driver and smashed this Zaskar around until the 2000 Olympics in Sydney. He then pensioned the bike off to a young volunteer at the event; Rowan.

Two years down the track Ro passed the bike onto his dad and current owner Leigh. Up until then the bike had lived a tough life on the World Cup XC circuit, but things were only going to get tougher. You see Leigh is a bit of an adventurer and since 2003 the bike has been on a multitude of 300km long tours through the Victorian Alps as well as surviving a 1,000km long crossing of the Tanami Desert in the remote north-western region of Australia. It's trekked across Tasmania, survived the Tour de Timor, ridden the Gibb River Challenge in the Kimberly a couple of times and even travelled around Sweden.

Toughest of all was the 1,500km journey along the 'Road of Bones' in Siberia. It was on this ride that Leigh noticed a crack in the seat stay. Luckily he found a road camp nearby where they repaired earthmoving equipment. A Russian guy welded the frame up and while it isn't pretty, the bike is still going to this day—five years down the track.

Leigh now has a more modern bike but the GT remain his 'old favourite' and still gets an outing when the terrain is not so rough. Phew, what a hard life!



BEN JOHNS

A cool bike on a budget here—that's what we like to see for Readers' Rides. Ben wanted a fully rigid single speed to challenge himself and improve his riding skills. When he stumbled across a Trek Rig frame going cheap at a swap meet, the project began in earnest. A large portion of the build came from bits that he already had laying around, supplemented with other bargain basement specials to complete the job. He also made some modifications to the eccentric bottom bracket to ensure the bike held its chain tension. He's happy with the result saying the ride is 'unexpectedly comfortable' and not the bone rattler he'd expected.





ALISTAIR GLACHAN

Alistair built this bike from the frame up. What is it you're wondering? Well the frame comes from Kinesis; a high end Taiwanese frame manufacturer that makes bikes for a good number of other manufacturers. Rather than shooting for a lightweight build, he selected the parts with strength and durability in mind. It runs a full Shimano XT groupset with a larger front rotor, American Classic All-Mountain wheels and a 120mm travel RockShox Reba fork. He says the bike is well suited to aggressive riding under a heavyweight rider.

BETH LANE

Beth only just got into mountain biking. To begin with she borrowed her son's Jamis MTB while she figured out whether she was going to stick with the sport. It only took her 10km to decide that she was addicted. So her search began for a decent entry-level bike. She skipped straight past the hardtails and got herself this Polygon Siskiu D7.0 dually. No mods to speak of at the moment but she's already taken part in her first race with it; the Townsville Adventurethon where her team placed second and sixth outright—off to a good start by the sound of it Beth!



Show off your bike and win!

Riding mountain bikes is great fun – I'm sure we all agree on that – but some of us have almost as much fun in the workshop; tweaking, tuning, modifying and customising our bikes. If that sounds like you, send in some high-resolution digital photos of your bike, detailing the hop-ups and mods.

Your bike can be expensive or very cheap, old or spanking new; it really doesn't matter. We're after bikes with some real thought or effort behind them; it could be modifications to improve performance or just a totally unique look.

HOW TO ENTER

E-mail your high-resolution photos through to john@bicyclingaustralia.com with 'Readers' Rides' in the subject line (we can receive files of up to 8MB via e-mail). Small, low quality digital images may not be useable, so take as much care with the camera as you would with your precious bike!

THE PRIZE

The Readers' Rides winner will receive a Limar 848 DR helmet. With its extended rear coverage, integrated adjustable visor and height adjustable 'Pro Fit' system, the 848 DR is a true MTB specific design that's ideal for all-mountain, enduro and all-round trail use. A total of 16 vents with internal channelling help with airflow and there's also a bug net on the forward facing vents to keep insects out.

The 848 DR is valued at $140, so get your entries in!



DISCLAIMER: The Readers' Rides feature is a general interest piece. By publishing these modifications and bike set-up ideas, Mountain Biking Australia is not suggesting they are safe or in any way approved by the respective manufacturers. Most modifications will void warranties and should only be undertaken at your own risk.



Winner!

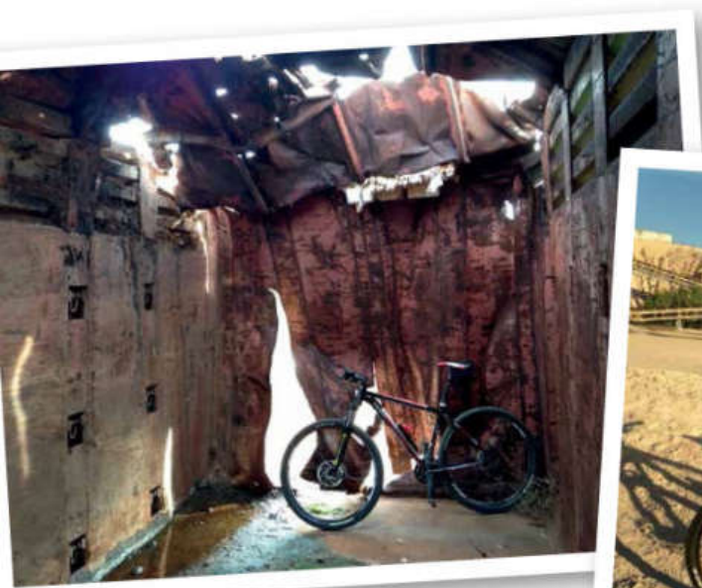
OTTO DAVIES

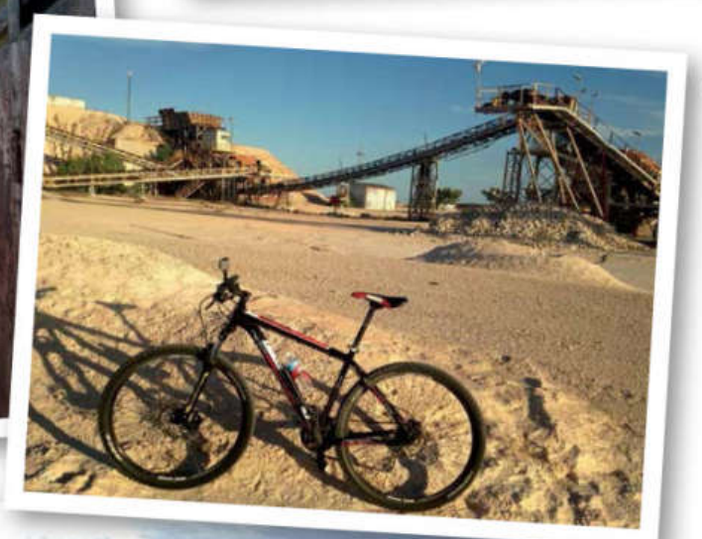
Our winning photo comes from Otto Davies. Using a Nikon D7000 and a 20mm lens, he took this photo on the 'Blair Witch Trail' at Lysterfield MTB Park. Epic lighting there Otto – well done!

MICHAEL FISHER

Michael Fisher is from Melbourne but travelled to Alice Springs to explore the trails that surround the town. You've got to love the red earth out that way—such a distinctive look.









DARRAN WEST

Not just one photo but a collection. These shots were all sent in by Darran West. His job takes him to remote locations all around Australia measuring railway track geometry. He gets little choice in where he goes but wherever it is, his bike travels too and Darran tries to make the most of it. Some of the locations pictured include abandoned mines at Rawlina as well as an old train crash site at Barton in the middle of nowhere. Looks like an interesting and varied job Darran.

PAUL

Another 'bike selfie' and a great shot too. Paul took this photo of his blinged out Enve equipped Santa Cruz 5010 whilst riding the fantastic new trails at Derby in Tasmania. I think we're jealous of both the bike and the riding location Paul.





TIM WESLEY

Tim Wesley is new to mountain biking and climbed up Bees Nest Hill near Winmalee in the Blue Mountains to get this photo—local mountain bikers will know the spot well! Tim says, "Can't believe what's in my own backyard and I'm really looking forward to getting involved with my newfound passion."

PETER TAYLOR

Peter Taylor sent this photo in from a place he'd rather be; the top of Corn Hill at Mt Buller in Victoria. I think we'd have to agree with you there Peter!

RICO FITCH

Each year Rico Fitch, his wife and her three siblings go away for a mountain biking holiday—this year it was the Blue Mountains in NSW. Unfortunately the visit coincided with a ton of rain and all the major tracks were washed out. Eventually they got the opportunity to ride the fire trail out to Sublime Point and Faulconbridge where Rico's brother-in-law Michael took this photo—nice looking spot guys.







RHETT PRUDEN

This photo comes from the top of Smedley's Hill Trail in Townsville. Rhett Pruden explained it is a 7km long blue rated trail that's part of the 17km long green rated 'Under the Radar' trail Pallarender. The trail offers some great views of the Northern Beaches and Halifax Bay area and is very popular with local mountain bikers. This photo was taken during the dry season and it turns lush and green once the wet comes.

We apologise to anyone whose photo doesn't make it into these pages. We usually get a large number of entries and can't print every submission. You can also check the JetBlack website for extra photo competition entries.

Entry details

If you think you are pretty handy with a lens, send us a copy of your best photo and you may win a Camelbak Mule valued at $179.

The Mule is a perfect partner for all-day epics and was designed with three-hour plus rides in mind. It's able to carry three litres of fluid and up to 11 litres of gear, so you can load it up for the long haul (or just use it as a lightweight commuter pack).

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We will select the winning photo based on its quality, originality and content. You can only enter with a photo that you have taken—do not send us someone else's photo without their permission.

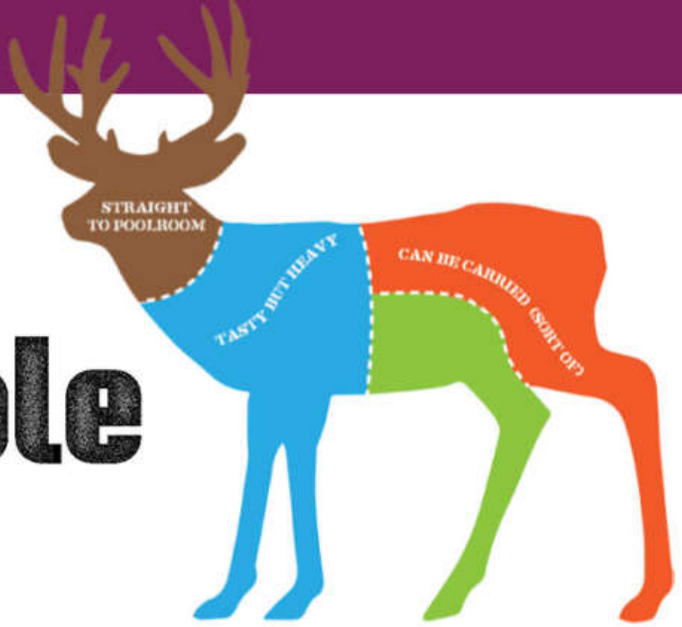
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We can receive digital photos with a file size up to 8,000KB. Larger files can be burnt to a disc and posted to:
MBA Photo Competition PO Box 218, Port Kembla, NSW 2505

** Don't forget to include some information about your photo as well as your contact details —just in case you win the prize!*



Article & illustration by Nzo Gaz



Unforgettable Lobotomy

Three years ago we lost one of the great characters of New Zealand mountain biking. James Dodds was a rider, a trail builder, a bike designer and a successful entrepreneur. This is a story that demonstrates the kind of energy levels Dodzy ran on.

I was riding to the top of the forest in my home town of Rotorua. Yes I know, life's a bitch with all those trails to choose from but I was headed for my favorite; Billy T.

Built in part by Dodzy, Billy T snakes across the top of the forest and drops you into a network of other downhill routes; perfect for an after work outing if you've got sufficient time for the half hour climb.

The first part of the ascent is a soul-eating plod up a forestry road called 'Direct'. I'm sure that a more poetic name could have been found – any one of a thousand mountain bikers would have suggestions – but most would not be fit to put on a signpost, so Direct it is. It rises about 200m over a couple of kilometres. From there the route involves Frontal Lobotomy. Not the operation, the trail.

Again built by Dodzy, it was conceived as a two-way run. It even had some small features for downhill traffic to play on. However, on completion the safety police deemed it too risky and it become a rare thing in our neck of the woods; a climbing singletrack. When he was building it, Dodzy described it as a middle-ring climb, back when that meant actually something. Even I have clambered up it without resorting to the granny (when I had one) but it was not something I could manage every time. It has the perfect gradient to its halfway point, a 180 degree switchback, but after that it is obvious that the calculations had been adjusted. A series of steep pinches deliver the trail to the desired exit, and coming as they do after nearly 400m of elevation gain from town, they are guaranteed to get a rider's attention.

On this afternoon I met Dodzy just as we arrived at the entrance to Frontal. I foolishly took the lead as we climbed the hill. Dodzy was pretty excited about his latest off-bike exploit; he had bagged his first deer. He started telling me about it almost immediately.

> "I FOOLISHLY TOOK THE LEAD AS WE CLIMBED THE HILL. DODZY WAS PRETTY EXCITED ABOUT HIS LATEST OFF-BIKE EXPLOIT; HE HAD BAGGED HIS FIRST DEER."

He had driven to the end of a road and beelined into the bush and up a steep escarpment. I knew the place he was describing, and 'bush' and 'steep' don't really do it justice. New Zealand bush is more like jungle around here, and the bush above Okataina is a vine laden maze of almost impenetrable foliage, on about a fifty degree incline when it isn't actually vertical.

From the tops Dodzy stalked around until he spotted a deer, which he lined up and shot cleanly. The challenge was that the deer he had spotted was a long way below him, in a small clearing at the base of a very steep section of the terrain.

At this point in the story we were still short of the uphill hairpin, and my pressure gauge was hovering just below redline. I had grunted enthusiastically at a few exciting bits of his description, but had not otherwise uttered anything sensible.

Dodzy climbed down to his deer and did whatever hunters do the make them ready to extract from the bush. He reckoned the first time he tried to stand up with it on his back, it was so heavy he fell over backwards.

The only certain way out that he knew of was back up through the jungle the way he had descended, to pick up the ridge he had climbed in on.

He didn't get very far before he realised there was no way he was going to make it up the climb with the deer on board, let alone survive the hike out to the car. Instead he retreated to the clearing and cut the deer in half. That made it reasonably portable. He climbed the cliff with the first half. Another thing you need to know about Dodzy is that he was frugal. Waste not want not. He could no more leave half a deer in the bush than set fire to a pile of folding cash. So down he went again and back up with the second load.

By now we had passed the first steep pitch, which I barely cleaned. Dodzy buzzed my back tyre and laughed out loud about how hard the second trip up was. He described it as almost impossible, and was going into gory detail about the state he was in after wrestling two pieces of a freshly slaughtered beast to the top of this mad jungle. My turkey timer was well and truly rattling—I was just about baked.

Two trips were required to get the meat from the staging point to the car, and that meant a serious hike both ways, twice. More details were forthcoming but by that point I was in survival mode, cross-eyed with the effort and not really following the narrative, entertaining though I am sure it was.

We popped out of Lobotomy into the bright afternoon, I did my impression of the *Incredible Melting Man* while Dodzy's grin conveyed his satisfaction at the fact that the deer was now safely in his freezer. After a few minutes, when I could once again string a sentence together, I asked Dodzy when this epic had taken place. 'Oh yesterday' was his answer! MBA

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Publisher's note:
As a father has compassion on his children, so the LORD has compassion on those who fear him.
Psalm 103:13 (NIV)

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Next Issue:

Why you should consider a dropper post, even if you don't ride steep stuff.



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